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THE
IRISH BUILDER.

Architecture, Archæology, Engineering, Sanitation,
Arts, and Handicrafts.

PUBLISHED ON THE 1ST AND 15TH OF EVERY MONTH.

ESTABLISHED JANUARY, 1859.

“The empire of man over material things, has for its only foundation the Sciences and Arts.”—LORD BACON.

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THE NEW YEAR.

HE above three words bring us face to face with a new epoch—a starting point in the race for fame, and even existence to many, which, but for such distinctive marks in the lapse of time, would be one ceaseless contemplation of real or imaginary anxieties; but Nature has willed it otherwise.

The first of January is, therefore, a kind of annual goal, towards which we invariably look forward as the harbinger of an improved position, promising to us brighter hours and busier days. The past year, in our own professional and building line has not been one of unalloyed prosperity, many of the contractors and working classes have been quiet enough for many weeks; whilst we have seen several offices and workshops employed up to their fullest extent.

The Marlborough Cavalry Barracks have recently been completed on an elevated site close to the Phoenix Park. The works, which have been the means of employing a large number of Dublin workmen, have been carried out by Mr. J. P. Pile, at a cost of £80,000. It is said the buildings will accommodate the full number of men of a cavalry regiment—862, and stabling is provided for as many horses.

Everywhere—means being equal to cost of introducing the system—the cry has been for electric lighting. The construction of extensive works in Fleet-street by the Dublin Corporation, has been in hands for some time. The Electrical Engineering Company of Ireland have taken the contract at about £30,700, which will embrace the supplying, erecting, and fixing all necessary plant, machines, engines, boilers, dynamos, conductors, pillars, etc., for lighting a portion of the city by electricity. Our citizens have examples of different stations supplied by this system, and can judge for themselves as to its capabilities for street lamps. This question of electric lighting is one of serious consideration; and (its cost of maintenance and lighting facilities, compared with the present system by gas) may in the long run prove the more expensive of the two.

Some large contracts have been accepted in Cork—one by the Great Southern and Western Railway Company, for the building of a new station in the Lower Glanmire-road, the work for which Mr. Samuel Hill is carrying out at £40,000. Mr. E. Fitzgerald's tender has been accepted at £8,883 for building 126 labourers' cottages on the Glasheen-road.

Of the Cork Courthouse competition we have previously spoken, as the designs were being sent in, and their examination and selection carried out by the appointed assessor,

Mr. Thomas Drew, R.H.A., together with the county and city committee. This painstaking and laborious duty has made the competition to rank as one of satisfaction to all concerned. Thirteen sets of plans were sent in, out of which the first, second, and third prizes respectively were won by Mr. W. H. Hill, of Cork, and Messrs. Sir Thomas Deane and Son, and Mr. William Stirling, of Dublin. Tenders for the carrying out of the works will, it is expected, be shortly called for.

In the early part of the year a large contract was secured by Messrs. H. and J. Martin at £14,349 for the extension of the harbour offices, Belfast. Mr. W. H. Lynn is the architect.

For works at Campbell College, from the designs of the last-named architect, the tender of Messrs. H. Laverty and Sons has been accepted at £54,214.

The Public Health Committee of the Corporation of Belfast City have also accepted some large tenders for the erection of public baths.

The Newry Town Hall competition has been before the public for some time. The first set of designs having been unsuccessful, the competition fell through; a new one was called for, which resulted in the design under the title of "Caroline," by Mr. William Batt, Belfast, selected. He has received the necessary instructions as to preparing working drawings and specifications. The tender of Messrs. Collen Bros., Portadown, has been accepted for carrying out the work.

THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.

THE annual general meeting of the above society is announced for Tuesday, the 12th inst., at the Royal Dublin Society, Kildare-street, when the chair will be taken by Lord James Wandesforde Butler, President, at 4 p.m. At 5.30 an adjournment will take place until 8 o'clock, when the remaining papers will be read.

Amongst the papers submitted for reading are:—

"St. Fechan of Fore and his Monastery," by Rev. Prof. Stokes.

"The Use of Signs in the Ancient Monasteries, with special reference to a Code used by the Victorine Canons of St. Thomas' Abbey, Dublin," by Henry Berry.

"Accounts of an Estate in Ireland in the 13th Century," by James Mills.

"The Shrine of St. Caillin," by Rev. Denis Murphy.

"Account of the discovery of two Stone Graves in the Co. Donegal," by Rev. W. Baillie.

"Notes on the Round Tower and Holystone of Castledermot," by Lord Walter Fitzgerald.

We learn from the programme that the members will assemble at noon at the King's

Inns, Henrietta-street, where they will be afforded an opportunity of inspecting the Dining Hall, in which are portraits of former eminent members of the Inns, the oldest being those of Primate Boyle, Lord Chancellor 1665-1685, and Sir William Domville, Attorney-General 1660-1686.

The Society will next proceed to the Public Record Office, Inns-quay, where the Deputy-Keeper (Dr. J. J. Digges La Touche), will exhibit some of the documents under his care relating to the time of Cromwell, &c.

The names of 40 candidates for membership are put forward by the Council for election at present meeting.

Nearly a century ago, the following interesting paragraph about the building known as the King's Inns or Inns of Court, in Henrietta-street, appeared in a Dublin magazine:—

"The Inns of Court, so long talked of and so much expected, are at length determined upon. This national building would have commenced before this time had not many unforeseen difficulties occurred. In the vicinity of Galway's Walk, in the west of the city, was first adopted. A very ample space of ground stretching down to the Liffey with a gentle descent formed a very pleasing situation. The great number of various interests in the surrounding concerns, and the very high price demanded by the owners, amounted to so great a sum, that the Benchers entirely abandoned further proceedings in that quarter. The site now fixed upon, and which is certainly one of the most pleasing in the vicinity of Dublin, is a large plot of ground in the rear of Henrietta-street. Preparations very speedily will take place for the necessary buildings, which is to be hoped will be on a scale and in a style natural and dignified."

The author of *Adversaria Hibernica*, in one of his clever "notes" in this journal, wrote as follows touching the above announcement:—

"Subsequent events proved that the site on Constitution Hill, Primate Robinson's garden, was not so cheap nor so free of difficulties as was imagined. After compensation being paid to minor claimants, it was found so difficult to adjust the matter of title, that we believe a special act of Parliament had to be procured. However pleasing the site of the Inns of Court might have appeared nearly a century ago, time has since worked great changes in its surroundings. The glory of the fine old private mansions in Henrietta-street has long since departed, and dilapidation is fastly setting in out and about here. Constitution Hill, which backs the "Inns," has a rotten constitution, and the place has for many years been more unsavoury than sanitary. The old branch canal that towered over the Temple grounds has lost its fly-boats and picturesque character years ago. The railway station and its belongings is more business-like than picturesque, and gives forth more frantic noise than law students studying Blackstone or Coke upon Littleton care to hear, though hereafter in our Law Courts they will be fond of a profitable wrangle."

THE DUBLIN BRICK AND TILE COMPANY.

The fourth general meeting of shareholders in the above company was held at 1 Foster-place, on the 18th ult.,

Mr. HENRY V. JACKSON, J.P., in the chair.

The secretary, Mr. William Edie, read the report for the year ended 3rd December, 1891, which stated that the trading for the past year had been carried on most successfully, notwithstanding the abnormally wet season through which they had passed. The profit and loss account shows a considerable increase in profit, as compared with the corresponding period to December, 1890. After payment of the June *ad interim* dividends, there remains a balance to credit of £2,168 6s. 5d., out of which the directors recommend (after payment of dividend on the 6 per cent. preference shares) a dividend at the rate of 10 per cent. per annum on the ordinary share capital of the company for the half-year just closed. These will absorb about £1,110, and leave £1,050 to be carried forward to next account. Thus, for the present year, the holders of ordinary shares will have received a dividend of 10 per cent. for the year, as against 9 per cent. for the corresponding year to December, 1890. With the exception of the erection of a lime-kiln and some other small matters, all the necessary works, plant, and machinery may be said to be completed. When finished, the total expenditure will have reached £28,000, at which figure the directors propose to close the capital expenditure. This will leave a reserve of £2,000 as floating capital—a sum ample, in the opinion of the directors, for all requirements. All the machinery, plant, &c., are in first-class order and condition, and the directors look forward to the prospects of a largely-increased business during the year just entered upon.

The Chairman said the exceptionally unsettled state of the weather had induced them to call the meeting together in town for this occasion, rather than run the risk of holding their meeting at the works; where they hoped to meet them in June next. He had but a few short remarks with which to trouble them—indeed he had little to add to the report which they had just heard read, and which had been circulated amongst them. Things were going on smoothly, and they were quite satisfied as to the future prospects. The demand for their bricks and pottery continued good, and was likely to increase. The works were in a thorough state of efficiency, ready to meet all contingencies, and some most important improvements had been carried out since their last meeting. They intended to close the capital expenditure at £28,000; this would be represented by the issue of £10,000 in preference 6 per cent. and £18,000 ordinary shares. So they saw that £2,400 a-year profit would insure payment of a 10 per cent. dividend on the ordinary shares; and he had little doubt that, with careful management, profit would be more likely to increase than diminish. He now begged to move the adoption of the report and statement of accounts, and he would be glad to answer any questions.

Dr. Davenport Crosthwaite, in seconding the motion, congratulated the shareholders on the prosperity of the company. It was now, he said, proved beyond doubts that the company was on a solid and certain basis. It was also a great matter of satisfaction that the company was a purely Irish one, and that every person engaged in it was, he was glad to say, an Irishman.

Mr. Samuel Worthington, J.P., managing director, alluded to the fact that in their prospectus they estimated the probable earnings of the company at £1,100 a-year. Their earnings now were over £3,000 a-year, and this was a fact that needed no comment.

Mr. J. Milo Burke, D.L., said that to all appearances they might look forward to a greater prosperity for the company. It was a matter of great national importance that their pottery manufactory had been such a

success, as heretofore pottery had to be altogether imported from England.

Alderman Toole proposed a vote of thanks to Mr. Vincent Jackson, the chairman of the company. He had never known of a board of directors which worked so harmoniously and with such anxiety to further the interests of the company, and a more genial or hard-working chairman than Mr. Jackson he never met. To Mr. Jackson was greatly due the present state of this Irish industry.

Mr. Worthington seconded the motion, after which the proceedings terminated.

THE TRAINING OF ARCHITECTS TO THE PURSUIT OF ARCHITECTURE.*

WHEN you asked me to address you this evening on some matter connected with our common calling, it seemed to me that I could not do better than choose for my subject that of the training of architects to the pursuit of architecture. It is a subject about which more has been said and written of late years than at any time before. It is a subject, too, about which there is, perhaps, more difference of opinion among us than about any other connected with our craft. That some better system of training young architects in the way they should go is desirable, seems admitted on all sides. For although the advantages of pupillage or apprenticeship are so great that they are not likely to be given up, still the student must of necessity supplement the experience gained in his master's office by study and reading of his own; and the office is and should be to him rather the place where he may expect to see put into practice the lessons he has learned elsewhere than the place where he can expect to be taught directly everything that he ought to know. He has, therefore, to join classes at art schools, and to enter on a course of reading, sketching, and independent study of his own; and it is here that his troubles begin, and here, too, that he is likely to be perplexed by the totally different courses that are proposed to him.

The first nostrum that is offered him is one that is at first sight quite beside the mark—examination. To his demand for instruction, the Royal Institute of British Architects replies, "We don't profess to teach you; you must get taught as you best can, but if you will come to us afterwards we will examine you."

Now, the question of examination is not exactly our subject to-night, but it touches it in so many points that it cannot be avoided. For the present, however, we will pass it over, and by-and-by I shall find it necessary to say something more about it. After we have defined, with what preciseness we may, the kind of training and instruction necessary to make a man a tolerable architect, we shall be better able to judge how far the test of examination is applicable to it.

A better answer to the demand is that which you yourselves of the Architectural Association have given. The voluntary or mutual system of instruction which you have for so many years usefully carried on, is now being expanded under your new scheme into a wider and more complete plan of architectural education which, if it is properly carried out, ought to go far towards supplying the want of which students complain. You are just at the beginning of a new career; it rests with you either to make it barren or fruitful; the question of its future usefulness depends entirely on the direction you give it at first starting—whether you shape it on the old lines of text-hooks and stale examples and conform it to the cut-and-dried rules of a hard-and-fast curriculum, or whether you guide it with a lighter and more liberal hand, and recognising that all men are not gifted in the same way, give to your system that elasticity which will enable each student to develop any special gifts he may

possess. The success of your scheme will, in fact, depend entirely on the view you take of the student's needs and of the nature of the instruction that will do him most good.

What, then, is it that the student wants to be taught in order to become an architect?

In the first place it is clear he must learn how to build well. Construction, planning, choice of material, and the proper use of it according to its nature, are not architecture, but they are the foundation of it; and, more than that, it is they that have moulded all the architectural styles that have ever really lived into the form by which we know them. But skill in construction and knowledge of building materials will not suffice to make the architect. He must not only be a good constructor, but he must know how to construct artistically as well as solidly. What architecture does for building is to give it the means of expressing itself, and of expressing itself with beauty and propriety. It does for building what the actor does for the play. The play may be written as well as you please, the repartee may be brilliant, and the dialogue sparkling; but if you draw it out in an inexpressive monotone you will at the utmost convey the bare meaning of the words, and you will awake no emotion. But let the actor declaim the same words with passion and feeling, and he will make you ready to start from your seat, or draw tears to your eyes. Just so with our art; two designs may be equally good in point of plan, convenience and construction, but the inartistic design, which stops with mere building, will give no pleasure and rouse no emotion; while the other, in the hands of an architect worthy of the name, arrests your attention and delights and satisfies the sense.

But though good building must precede good architecture, do not think that architecture is a sort of ornamental varnish that may be laid on to something else that is brought to it ready made. It cannot be applied to a building by way of improvement in the same way as you put gilding on to a picture-frame, or butter on to bread. Your art and your construction must go together, hand in hand, from the very beginning. From the very first you must work with a view not only to strength and convenience, but also to beauty and fitness; from the first your plan and your architectural design must grow up side by side. While you contrive approaches arrange your rooms, your mind will be busy at the same time forming a picture of the building as it will work out on these lines, and as you go on you will shift a room, or a wall, or a pillar, recess one part, project another, or drill the whole into symmetry according to the architectonic idea in your mind, and to the character you wish the building to have. All this will advance *pari passu*; there is no special moment at which one can say, "Here architecture comes in." It has been there from the beginning, inseparable from the plan and construction, affecting and modifying them in a hundred ways, and being affected and modified by them in its turn. For their influence is reciprocal. If it is bad to study construction independently of architectural considerations, it is, perhaps, worse to study architectural design apart from construction. It cannot stand alone. Construction is the framework or skeleton on which the figure is modelled, and if you deprive it of its backbone, architecture falls into a helpless mass of powerlessness, as incapable as a jelly-fish.

This, then, is what the student of our craft has to learn in the first place, and as the key to all that follows—to construct well with an artistic motive. Mere constructive skill will make him an engineer, but will never make him an architect; and mere acquaintance with architectural forms and skill in reproducing them may make him a good draughtsman, but will never make him an architect. Construction and design must be learned together, not as separate studies, but as one simple subject to be mastered by everyone who aspires to be an architect.

Now, while there is abundant opportunity for learning building construction pure and

* By Mr. T. Jackson, M.A. Paper read at Architectural Association, on the 11th ult. (Mr. F. T. Baggallay, the President, in the chair).

simple, irrespective of æsthetic considerations, there is no school, so far as I know, for teaching construction in the architectural sense which I have indicated, and here is a want that your new Studio may admirably well supply if you manage it aright. By way of making quite clear what I mean, let me make some remarks on what I saw there a few weeks ago when at your invitation I attended as visitor of the Advanced Class of Design.

Among the designs that were then produced were several that showed considerable promise. Mistakes in planning, of course, were to be found, but they were generally of a kind that experience would easily correct. What struck me as especially amiss was that the authors of these designs had seldom or never really considered how their designs were to be carried out. There were open-timber roofs that looked pretty enough on paper, but which I was obliged to point out could not be constructed, because timber was not to be had 3 ft. wide. There were arches, graceful and stately, which, for want of proper abutment, would infallibly have brought the building to the ground. But the worst was that the designers showed so little appreciation of the scale to which they were working. The drawings were all to the scale of 8 ft. to an inch, and few of the students had thought what would be the effect of their details when enlarged to the real size. Some of them when asked to sketch to a larger scale a section of the jamb of their windows or doors, were unable to do it. They had never thought about it, any more than they had about the scantling of their timbers, or the abutment of their arches. Now, these are examples of design being studied apart from construction, and I should like to repeat here the suggestion I made there,—that every student as he goes on with his designs should make detailed drawings to a larger scale, or sometimes full size, of each piece of construction, or each architectural feature. He could not fail then to know his own meaning. He would not be misled by his own small-scale drawings, than which nothing is more deceptive even to an experienced eye, much more that of a student. This year, among the designs sent up for the National Art Prizes at South Kensington, was one which showed considerable ability, and was drawn in a taking way. A scroll of simple foliage delicately touched in, filled a space over a doorway, and in the drawing looked very well; but measurement pitilessly exposed the fact that the leaves were 4 ft. across, of which the author was probably quite unaware. He had been deceived by the scale of his own drawing, and had he been going to erect the building he would have had to alter his design; for with his absurd leaf the panel which it fitted would have had to go, and the whole composition would have been affected. There were submitted for competition numerous other designs where construction had been altogether ignored or evaded; domes and lanterns with no visible means of support, and so on; but I have selected this simple instance because the author had evidently to a certain extent considered his design properly and thought it out, and would not have made this mistake had he taken the trouble to make a working sketch, however slight, to a larger scale.

Another suggestion I ventured to make in your Studio the other night was that besides being always required to draw details of the design to a large scale, the students should proceed to write a short specification of the work. What is a specification? I do not mean the senseless farrago of repetitions and stock phrases that some people write, but a sensibly written document, with no unnecessary verbiage. It is simply a letter to the workmen telling them once for all what, if you had no specification, you would have to tell them bit by bit as the work went on. You forestall the innumerable questions the workmen would have to ask when the occasion arose, by writing their instructions down for them before they begin. But it serves

another purpose as regards yourself. It forces you to define to yourself your own intentions. It perhaps reveals to you something in your design that will not do, and compels you to alter it; it obliges you to fix the notions that were floating in your mind, so as to admit of being put down in black and white; and it discovers to you any point on which your knowledge is imperfect, and about which your ignorance may need to be enlightened. I venture to suggest this is an excellent corrective to the tendency to fanciful and unpractical design, of which I saw signs in your new Studio, and which cannot too soon be reduced to the stern rule of common-sense and necessity.

Let this, then, be the first rule of your Studio, that every student should make it clear to his own mind, and to that of his teacher, how his design is to be carried out,—how the thing he is designing is to be made; and, if he cannot explain this satisfactorily to himself and others, he should be told that it is of no use his going on till he has cleared up the mystery and solved the problem in a satisfactory way as regards both sound construction and good artistic form.

The great importance of this becomes evident when you consider what it is that an architect is called upon to do when he has a building to erect. Unlike the painter and sculptor, he does not produce his result by handling and shaping the materials himself, but by directing others how to do it. Remember that it is your work to design for craftsman. What you draw on paper they will have to make somehow as best they can, and if you do not know how your own designs are to be carried out, how are they to know it? As you are working out your plans and elevations, try and put yourself in the place of the clerk of works or foreman who will have to work from them; ask yourself what explanations he would need, and amplify your details and descriptions to meet his imaginary wants. In this way you will avoid making mistakes and omissions which might upset your design, and which otherwise you might not be able to detect; and you will discover to yourself your own ignorance and see what it is you have still to learn.

And while I am on the subject of your drawing-classes, there is another suggestion that occurs to me, and that is, that the students should as early as possible be accustomed to put their designs into perspective. Nothing is more misleading than the habit of designing in elevation. An elevation is nothing but an upright plan, just as a plan is, if I may so put it, a horizontal elevation. Both are mere conventional representations, mere working diagrams, correct for use with rule and compass, but conveying no idea of the effect of the design. You may take it for a general rule that a building which looks well in elevation rarely looks well in perspective, and as we see buildings in perspective, and never in elevation, you will readily see which of the two ought to be first studied. My own practice, except in the simplest buildings where I can trust my experience without trial, is always to start a perspective at the same time as the elevations, and when the building is got to look right in perspective, I work back from it to the elevations, and alter them to suit the perspective. And this I would strongly recommend to your students as the best way of shaking their confidence in geometrical drawing, and teaching them as they go on to consider how the proportions and dimensions they are adopting will strike the eye in actual work. Some of the best among the designs which were shown me the other night would have come out in perspective very differently to the intentions of their authors, and, I fear, have caused them considerable disappointment. It is a common joke against architects that they take in unwary clients by showy, attractive drawings, that hold out a promise which the building fails to realise; but I am sure that architects themselves are quite as often taken in by their own pretty draw-

ings, which come out very differently in bricks and mortar from what they appeared on paper.

So much, then, as to drawing, which, after all, is not the main thing: for our drawings, it should be borne in mind, are not to be regarded as works of art, but rather as diagrams to explain the design to those who have to realise it. The design is the great thing, and the main object of an architect's education should be to train him in habits of design, to strengthen his imaginative powers by exercise, and to correct his taste by showing him good models. Two things are necessary to him,—imaginative power, and knowledge. No one can give him the former, and if he is quite devoid of it, it is useless his thinking of being an architect. But it is not necessary to have genius in order to turn out very fair work; work which is quite capable of giving a great deal of pleasure, much more than that afforded by the efforts of genius when misdirected and ill-applied. "If you have great talents," says Sir Joshua Reynolds, "industry will improve them; if you have but moderate abilities, industry will supply their deficiency. Nothing is denied to well-directed labour: nothing is to be obtained without it. . . . I will venture to assert that assiduity unabated by difficulty, and a disposition eagerly directed to the object of its pursuit, will produce effects similar to those which some call the result of natural powers." Moderate powers of imagination will grow stronger by practice, by observation, and by discipline. They can, in short, be educated, like any other faculty.

The other necessary qualification, knowledge, depends on the student's own industry, assisted by proper teaching, and this assistance you now propose to give him. Some things he will learn from books; the history of his art can be acquired only by reading, and some knowledge of it is, of course, indispensable, while, if he has time for it, he cannot know too much. But let him be on his guard against thinking that a historical knowledge of art will do anything of itself to make him a better architect. "A perfectly illiterate man," says Sir Joshua, "will never make a great artist;" but all the same a man may be a very good artist without being a man of letters. It is impossible that every student of architecture should attain the same literary culture, nor is it necessary. No doubt the more you love your art the more curiously will you study its history, but do not suppose that by learning the names, dates, and history of the authors of the buildings of the past you are studying architecture. You are merely following an interesting and natural course of antiquarian research, which it is most highly desirable that you should follow, but take care to disabuse yourself of the notion that it will help you in the least degree to be a better architect. Not that I would in any way dissuade you from these studies if you have time and taste for them; they are not architecture, it is true, but, at the same time, if you are nothing but an architect you will be a very dull fellow; only, distinguish carefully in your mind between the study of your art and the study of its history and antiquities, which is a totally different pursuit. As an art-student you must of course understand the sequence of styles, and their characteristics, how they grow out of one another and, in their turn, developed into something new; but in that capacity you will have nothing to do with the social history of the age of which they formed the outward expression. Your business is with the value of ancient buildings as works of art; if you admire them, analyse the causes which make them beautiful; if you are disposed to criticise them, do not be deterred by any reference for their antiquity, but judge them fairly to the best of your powers. Look at them with your eyes open, apprise them without prejudice, try to understand them without being blinded by the charms of old association and

historic interest, and in that way you will get from them all the help they are capable of giving you in your architectural training. In short, be an artist first and an antiquary afterwards, remembering that your vocation is not the study of the art work of the past, but the creation of works of art in the present.

With this point in view, do not confine your study to old work. Watch also the current architecture of the day, so far as it is worth watching. It has always been the laudable practice of your Association to visit new buildings and works in progress, and you cannot do better than continue that practice in future. When one does fine good modern work, there is something about it more inspiring and stimulating than there is about old work, however superior the old work may be. You feel that your own case is not hopeless when you see good work done by your friends and contemporaries, who are within your reach, not removed, like the great masters dead and gone, who speak to us only by their works. You here see also the application of novel materials and new ways of using the old, and you find in them suggestions for new design on your own part; and if there be any real life in the work you are studying, it cannot but be enlivening to be brought into contact with real living art in your own day and country.

Bearing the same point in mind, let your reading be of a practical kind. Besides books of technical instruction in carpentry, masonry, brickwork, and so on, read such works on architecture as deal with it from the constructional as well as the historical and æsthetic side. There is no better reading of this kind than is to be found in Viollet-le-Duc's great Dictionary; his conclusions are sometimes fantastic, and his judgment prejudiced; but if you read carefully his article on "Construction," which occupies nearly a volume to itself, analysing and making notes as you go on, you will rise from it a wiser man, and will have got a better understanding of the nature and motives of Mediæval architecture than by any other reading I can tell you of. There is nothing comparable to it, unfortunately, in English; and, indeed, considering the mass of printed matter about architecture, it is wonderful how few books there are of any direct use to the student. Encyclopædias, dictionaries, and hand-books there are in plenty, but few of them go really deep into the subject. A work that professes to treat of all known styles, ancient and modern, within the boards of an octavo volume or two, cannot be more than superficial. Even Fergusson's books, excellent as they are,—capital, as far as they go,—are more useful to the amateur than the student.

Above all, do not try and make yourselves all at once encyclopædias of architecture. Confine your study at once, and, indeed to a great extent of all your life afterwards, to those styles which practically concern our modern use. Egyptian, Assyrian, Persian, and Indian architecture are interesting studies, and no educated man would like to be entirely ignorant of them; but the knowledge which contents an ordinarily educated man will suffice for you. Dare I say the same of Greek art? I approach the question with some trepidation, but to speak honestly, I should say that it may safely be put on one side by the student, and regarded, even in his riper years, rather as a splendid illustration of what art can achieve under certain conditions than as having any direct bearing on his own work. With Roman art it is different: as the system of Roman polity permeates our civil constitution, and the roots of Roman speech intertwine themselves with our language, so did Roman architecture, in its progressive transmutations, give birth to all modern European styles, both those of the Middle Ages and those of the Renaissance. Roman art must be studied, though to my thinking,—I say it with diffidence, and the consciousness that many of my hearers will disagree with

me,—it is most interesting when regarded in its parental relation to the styles to which it has given birth, and which will naturally be the main objects of your studies.

(To be continued.)

RECEIVED.

Fluate: a Process for Hardening and Preserving Calcareous Building Stones and Marbles. Published by the Bath Stone Firms, Ltd., Abbey-yard, Bath.

"Fluate" is the brief title of a neatly got up brochure, issued by the Bath Stone Firms, Ltd., for the purpose of introducing to the patrons of their several quarries, and to all who may be interested in arresting decay in stones, of whatever nature, used in building, a new process by which the end may be attained.

On page 9 we are told that—"There are four prime conditions which are, we venture to affirm, essential to practical success in any endeavour to permanently increase the resistance of our building stones to atmospheric action: 1. The process should be largely chemical. 2. Whatever change is effected in the stone, the resultant products should be themselves insoluble. 3. The process should not alter the natural appearance of the stone. 4. Its cost should be moderate. With all this in our minds, and being unable to find any other process from which we could look for even approximate success, we have for several years past been making careful personal enquiries and investigations into, and experiments with the process known as fluosilicization, a long word which we have abbreviated into 'Fluate.' This process was discovered by an eminent French chemist, M. Kessler, and has for the last ten years been used in France, Switzerland, Italy, Austria, and other Continental countries. In the Paris Exhibition of 1889, Fluate was exhibited in class No. 62 for materials and processes for public works and architecture. To it was awarded the bronze medal, which was the only medal granted for processes for the hardening and preservation of stone. We are bound to say that the further we have carried our investigations and experiments, the more has the conviction deepened within us that this process completely fulfils the conditions above named. Moreover,—and this is the point of paramount importance, so far as we have been able to discover, either by chemical experiments or by the test of exposure to actual atmospheric conditions,—M. Kessler's discovery has solved with equal completeness the problem of the permanent preservation from decay of certain of our building stones and other materials. Having gained this experience, we entered into negotiations with M. Kessler's firm, Messrs. Faure, Kessler and Co., of Clermont Ferrand, France, our object being to arrange for the introduction of 'Fluate' into this country."

"Fluate" (we may mention) is not paint, or stopping, or varnish. It in no way affects the granular appearance of the stone, nor does it put any gloss upon the surface. On the contrary, the stone retains all its naturalness of appearance, while the whiteness of new work is relieved to about the same extent as it would be relieved by being exposed in pure country air for a year or so. The cost is moderate. One pound weight of the crystals will make sufficient solution to treat with the required two dressings at least 40 superficial feet of Bath Stone work. The price is 3s. 4d. per lb., which is equal to 1d. per superficial foot of stonework treated. In short, the cost of the materials is scarcely more than nominal. The labour in applying the process is the same as in putting on two coats of white-wash. No scaffolding is necessary, although in the case of new buildings the fluating would naturally follow the cleaning down, before the scaffolding is removed. But it can very well be done from a ladder, and it does not require skilled labour. The solution

may be made to penetrate any depth necessary. In the case of Bath stone, two dressings, the first of 10° Beaumé, and the second of 20° Beaumé, are found to be sufficient.

Fluated stone possesses the further advantage of not becoming so dirty and discoloured as unfluated stone. In its natural state, stone presents to the atmosphere a surface whose nature it is to be absorbent, and whose pores are open. The process of fluating not only partially fills these pores, but it so hardens the stone itself as to render it practically non-absorbent. Therefore, while soot and dirt settle upon the unfluated stone, and are driven into it by the rain and wind, the fluated stone offers no foothold for these impurities, and the rain, instead of facilitating their entrance into the stone, simply washes them off the surface. The stone, by being fluated, is made to repel, instead of absorbing, those elements which, when received into the stone in its natural state, contribute to its decay.

Lists are given of some "Fluated" Buildings in France and in England and Wales, with satisfactory testimonials from the architects and others who have had experience of "Fluate."

Amongst the numerous calendars submitted to us, that of the well-known firm of Booth Brothers, Tool Makers, Engineers, &c., whose extensive works are at Upper Stephen-street, deserves to be placed first. It is presented in the shape of a shield enamelled in bright scarlet, with a neat edging in gold. The calendar proper, giving the months and the days of the week, printed on olive-colored cards, with lettering in white edged with black, and set in a burnished brass socket in centre of shield, is very unique, and the contents can be read from a considerable distance.

Messrs. T. Fletcher and Co., gas engineers, Warrington, have issued their new patent block calendar for present year, a copy of which is now before us. As in former issues, at the top of each daily leaf is given an illustration of one of the numerous articles connected with gas-heating for which this firm is noted. The price of the calendar is only sixpence post free.

Calvert's Mechanics' Almanack for 1892 (being its nineteenth issue), contains a vast amount of technical and industrial information in addition to its well-arranged tables and calendar. An investment of fourpence will be returned fourfold to the craftsman becoming possessed of this *vade mecum*. It has been announced that the third volume of "Calvert's Reference Book" is in course of publication.

THE CITY OF CHICAGO.*

BEFORE referring to the Columbian Exposition, it may prove of some interest to you this evening if I attempt to give a slight idea of the appearance and general characteristics of the city of which we are now hearing so much. It is said that a United States engineer officer, at the beginning of the century, who was employed upon the survey of the great lakes, reported that there was only one spot on which it was impossible to build a city on the banks of Lake Michigan; it is just on this spot that Chicago is situated. There was, however, good reason for this prophecy. A century ago the pathless wilderness terminated here in swamp and morass—land mingling with water like an unfinished fragment of creation; the sluggish, fever-laden creek, fed from the lake or from the inland water-shed, and altering the direction of its current with the season and the water level, spread over the adjacent low-lying lands and helped to complete the scene of hopeless desolation. But even two centuries ago this forbidding stream had its uses; the

* From an interesting paper on "The Columbian Exposition," read by Mr. James Dredge, at Society of Arts, on the 9th ult., and published in their *Journal*.

spirit of successful colonisation was then active in France, stimulated and carried forward by the fervour of religious enthusiasm that drove earnest men into the remote places of the earth, bearing aloft the Cross and planting strange truths in savage minds. These were the explorers and pioneers who have left traces of their work behind them through the broad lands that separate the lakes from the Gulf of Mexico; whose monuments remain in the names of cities and villages throughout Illinois and Louisiana; and in the names of many of the principal streets of the City of Chicago. Marquette and Joliet—priest and soldier—discovered the Chicago River late in the seventeenth century, and tested its usefulness as a way of reaching the Mississippi by the portage over the low divide that opposes a barrier to the chain of lakes from discharging into the Gulf of Mexico. The first survey of the district was made by Joliet in 1673; his companion died of malaria after a brief attempt to proselytise the local Indians. In these early times the name of the site was much the same as now; it had two meanings, according to whether the word was used by one or other of the tribes that frequented the unalluring spot—"Onion" or "Polecat." The fate of Marquette appeared through several generations to serve as an inducement for others of his devoted calling to seek malarial martyrdom on the banks of the Chicago Creek; and in their wake followed the traders, to traffic with the natives, but not to stay. The first permanent resident appears to have been a fugitive slave, who in the course of time did quite a handsome business as a fur trader. Meanwhile, troublous times were the portion of North America; wars with the Indians; French, Colonial, and British wars; and, finally, the revolt against English despotism that laid the firm foundations for a great nation. It was only after the genius of Washington had brought the war of Independence to a triumphant conclusion, that the site of Chicago attracted any attention; this was prior to the acquisition of Louisiana by the United States through purchase from France. British influence among the Indians around the Lakes was strong, and was exerted to the damage of the new Republic. In the words of the American writer, "It became necessary, with the acquisition of new territory, that the United States should make some demonstration of its strength, in order to counteract the pernicious effects of England's tactics." This demonstration took the shape of a fort that was built in 1804, and formed a nucleus for a small group of traders and other hardy pioneers to gather round it for mutual protection. So matters remained till the war of 1812, when a wholesale massacre of the garrison and the handful of settlers took place; the fort and dwellings were destroyed, and the silence of the wilderness was restored. Two years later, however, Fort Dearborn was rebuilt, the power of the Indians was broken, and a settlement was again attempted, this time with success, so that when—in 1818—Illinois was admitted as a State into the Union, Chicago was quite a thriving village. Civilisation—embodied by the tax collector—appeared in 1823, when, on behalf of Fulton County, in which Chicago was then situated, the sum of 1142 dollars was obtained, showing that the rateable value of property at that time was 2,284 dollars, or less than £500. The real founders of Chicago appear to have been the Illinois and Michigan Canal Commissioners, a powerful corporation early in the century, and who possessed powers to lay out towns on the lands that had been assigned to them by the Government. Thus it came about that "Fort Dearborn Settlement," as the village had been called, passed out of existence, and the town of Chicago was called into being. The first plan of the new town and its surroundings (long since absorbed by rapid growth) was issued in 1830 on August 4th.

The history of the first few years of Chicago is that of all new settlements in the

wilderness, with the exception, perhaps, that its progress, though at first slow, never received a check. In 1832, the first business building was erected by Mr. F. W. Peck, the father of one of the most prominent and wealthiest citizen families of Chicago to-day. About the same time the industry, now so famous—that of pork packing—was inaugurated, and, in 1833, the population had increased to 350, by which time it was considered that the settlement had developed sufficiently to be incorporated into a town. The United States Government, as early as 1833, commenced the harbour works, which have since assumed such large proportions, and it is worthy of note that when there were but 350 inhabitants, no less than four churches and four taverns had been constructed. It is not therefore surprising to learn that the first legislative efforts of the new town were directed towards the closing of the latter on the Sabbath, and the proper observance of that day; or that fines, that helped to swell the municipal exchequer, were levied for the infraction of these laws. The ambitious inhabitants of that time soon grew dissatisfied with being mere townsmen, and, in 1837, they succeeded in raising Chicago to the dignity of a city. In that year, when the first census was taken, it was found that the population had increased to a total of 4,170 persons. From this date the growth of the city of Chicago was phenomenally rapid, but it would occupy too much space, and be beside the present purpose, to attempt to sketch its history. I may therefore pass on at once to notice in a few words the fire of 1870, which destroyed more than three square miles of buildings, and rendered 98,500 persons homeless. This catastrophe was the turning point in the history of Chicago, for terrible as the visitation was, it swept out of existence, along with numerous fine and permanent buildings, thousands of wooden structures, and at the same time obliterated some miles of narrow streets. The total loss was estimated at nearly forty millions sterling. Modern Chicago dates from this conflagration, and, ten years after it had occurred, all visible traces of the devastation had disappeared, and the new era of construction, of which the city is so proud, had commenced.

To-day Chicago covers an area of 180 square miles; it has a population of over 1,200,000; there are 2,200 miles of streets within the city limits; there are 395 miles of street railways; and over 2,000 acres of public parks. Thirty-five district railroad companies have station accommodation in the city, and it is claimed that these railroads, with their branches and immediate connections, have a total length of more than half the mileage of all the ways in the United States. The Chicago river and its branches are crossed by sixty-one bridges, all, or nearly all, of which are turning bridges, so as to accommodate the constant movement of ships up and down the river. There are in addition several tunnels, by which the street traffic can pass without interruption, and this means of communication is on the increase. Like most American cities, Chicago is laid out on the convenient but monotonous rectangular system. Its most important thoroughfare is State-street, which runs from north to south for a distance of 18 miles or only three miles less than the distance between London and Windsor. To give you an idea of the dimensions of the city, I may add that 87th-street, which runs from east to west across its widest part, is 10½ miles long. Someday the ring of boulevards will be the glory of Chicago, and will add another to her many claims of superiority over the remainder of American cities. Some of these really magnificent roads are completed, and are lined with miles of handsome residences that attest the wealth and refinement of the citizens. When completed, this succession of boulevards will connect the twenty-eight parks which give to Chicago her favourite title of the garden city; I cannot say what will be the length of this system of boulevards, but it will certainly be

longer than any other ring of boulevards in the world.

The number of houses added to Chicago last year would, if placed side by side, have made a solid frontage fifty-one miles in length. They numbered 11,640 structures, and cost nearly ten million sterling; this will give some idea of the rate of development of the city.

THE SHEIL HOSPITAL, BALLYSHANNON.

WITH this issue we give a perspective view of the above building. The ceremony of laying the foundation stone was performed early in October last by Miss Sheil, a sister of the founder, the late Dr. Simon Sheil, of Ballyshannon, who has made a bequest of £6,000 for the erection of the building. The plans have been prepared by, and the work is being carried out under the superintendence of, Mr. William H. Byrne, architect, of this city; Mr. M'Adorey, of Dundalk, is the contractor.

CENTENARIANS.

In the Registrar-General's Quarterly Report just issued, we find numerous cases of longevity recorded, of which we print a few. At Ballyvaughan, a female, 100 years; at Killadysert, a female, 106 years, who was in possession of all her faculties up to the last week, and who was rarely, if ever, ill during her life; at Macroom, a male, 100 years; at Carrick-on-Suir, a male, 106, and another at 96 years; at Emly, a male, at 107 years, well authenticated, who retained his faculties and perfect health up to the moment of death; at Larne, a female, 100 years; at Donegal, a female, 101 years; at Downpatrick, a male, 107 years, whose funeral was attended by a son aged about 77.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

THE opening meeting of the session was held in the new hall, Dawson-street, on Wednesday evening, 16th ult.,

Mr. THOMAS F. PIGOT, President, in the chair.

The Chairman regretted that in consequence of the incomplete state of their new premises, the council thought it better to merely go through the form of programme, and leave their business matters till a future meeting.

The minutes were read by the hon. secretary, Mr. Henry A. Ivatt.

Dr. Stoney proposed a vote of thanks to the Board of Trinity College for their continued endeavours in making the meetings of the Institution acceptable.

The Chairman presented to Mr. Greenhill a number of prize volumes.

The ballot for council and officers resulted as follows:—*President*, Thomas F. Pigot; *Vice-Presidents*, Martin Atcock, James Dillon; *Other Members of Council*, Samuel Geoghegan, Edward Glover, Joseph H. Moore, William Ross, W. G. Strype, W. W. Wilson; *Associate Members*, Charles Geoghegan, Charles E. Martin; *Honorary Secretary*, Henry A. Ivatt.

A new serial, entitled, "Pitman's Shorthand Weekly," begins with the new year. It is designed to furnish writers and students of shorthand with a high-class periodical devoted to entertaining literature, freely illustrated, and printed entirely in lithographed shorthand. The "Greeting" in the first number is from the pen of Mr. Isaac Pitman, the venerable inventor of phonography, having for this occasion resumed the lithographic pen, with which in bygone years he was such an industrious worker. The serial story is "Q's" fascinating romance, "Dead Man's Rock;" and an original story, of phonographic interest, entitled, "Traced in the Snow," also appears. There is, in addition, a liberal supply of humorous reading and sketches.

CORPORATION COMMITTEES.

THE FINANCE AND LEASES COMMITTEE.

THE Treasurer submitted financial return, showing the receipts and expenditure of the several corporate funds; cheques were drawn in payment of accounts, &c. A report was received from the secretary, showing that applications for abatement of taxation, under Sec. 75, Duhlin Corporation Act, 1890, were received in respect of 3,436 tenements, and that, of these, 2,777 were certified as suitable dwellings for labourers and artisans. A list of these tenements was forwarded to the Collector-General, with instructions to grant the abatement authorised by the Act in respect of all those dwellings, provided the rates levied on same were paid before the 1st March next. The committee had again under consideration an Order of Council directing them to inquire into the circumstances of the letting of the premises 20 and 21 College-green, and suspending in the meantime the proceedings connected with the letting. It was resolved to recommend the Council to rescind their order approving of the letting, and ask that the committee be authorised to re-advertise the premises, and offer them for sale by public auction. The committee agreed with the suggestion of the Electric Light committee, that wires for the supply of the light to corporate buildings be laid down; and that estimates be in due course obtained for the supply of fittings, &c.; such estimates to be subject to the approval of the committee.

THE PAVING AND LIGHTING COMMITTEE.

The attention of the committee having been called to the defective condition of the footpath in Fownes-street, the Borough Surveyor was instructed to have the necessary repairs carried out. A similar order was made as to repairing the flagging opposite Nos. 42 to 45 Lower Leeson-street, and No. 18 Richmond-place, North. The Borough Surveyor having called the attention of the committee to the fact that a wooden pole has been fixed in front of the premises, No. 37 Capel-street, from which certain goods are suspended by way of advertisement, the secretary was instructed to communicate with the occupiers, calling upon them to at once remove the pole referred to. The committee having had before them a report that the hoarding in Grantham-street had not yet been removed, in compliance with their order to that effect, instructed their law-agent to take the necessary legal steps to compel its immediate removal.

NEW PARISH CHURCH,
CARNALWAY, CO. KILDARE.

CARNALWAY, spelt Carnallaway on the old chalice and paten (1716), is pronounced Carnalway, and may mean the cairn of some ancient person of note, whose name became corrupted in course of time; or, as some have suggested, may possibly be explained by such a name in Scotland as Kirkalloway, i.e., All Hallows' or All Saints' Church. In appearance, though not in sound, it suggests a name that might be found in the Pilgrim's Progress, and gives a colour of possibility to the conjecture of a local antiquary that the Puritan influence to which we owe a Blessington in the same neighbourhood may have had something to say to the present form of this ancient Irish name. The new church is said to occupy the site of an old monastery of the Church of Ireland, and is built almost exactly on the foundations of a church which was erected in the last century by the then Mr. LaTouche, of Harristown. The tower of his church, and the spire, which was added more recently, are incorporated in the new building. His crest and arms, which had to be removed from their position over the entrance, have been re-erected over the new entrance.

The new church, which was consecrated on the 22nd ult., is in the Hiberno-Romanesque style (as it has been named by Miss Stokes),

and was designed by Mr. J. F. Fuller, diocesan architect, of which style he is an authority, and the work has been carried out by Mr. A. P. Sharp. In some points the church reminds one of the churches at Clane and Rathdaire, both the work of the same architect, but is smaller and less ornate. It consists of a chancel, choir, choir transepts, nave, vestry-room, and entrance-porch under the tower. Four beautifully-proportioned and carved arches mark the intersection of the nave, chancel, and choir transepts. The organ stands in the north transept. The south transept and choir are fitted with handsome carved seats and desks of solid oak. The credence and sedilia are inserted as arcades in the chancel walls. The steps to both choir and chancel are of Cork red marble, and both are paved with Italian mosaic. The chancel walls are lined throughout with Portland stone, and diapered on both sides of the holy table; and the columns and arches of each window are enriched with carvings, of various Celtic designs. The windows are filled with cathedral glass. The inner roof is a perfect semicircle, sheeted with pitch pine, and supported by carved pitch pine ribs. The building is thoroughly warmed and ventilated on the hot-air system. Mrs. Wakefield, of Carnalway Lodge, has supplied the greater portion of the funds for this work, but many other parishioners and friends have subscribed liberally.

CORRESPONDENCE.

OLD DUBLIN—"GLASSMANOGUE."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—On some old maps of Dublin of the last century, the above title is given to the road now called "Phibsborough"-road; and some years ago there was, I think, a house on this road inscribed "Glassmanogue House," whose grounds extended to the canal at rare, where there still remain large stone piers and entrance-gate, which look rather out of place at the present time, being on the brink of the canal. Perhaps some antiquarian reader of your valuable journal would kindly give some explanation of the old and the modern title of this road, and also of "Grangegorman."—Yours, &c.,
MACBHALTIER.

Dublin, Dec. 30th, 1891.

THE HISTORY OF
THE CHURCH AND PARISH OF
ST. MICHAEL THE ARCHANGEL,
DUBLIN.

(Continued from page 286, vol. xxxiii.)

THE PAROCHIAL REGISTER.

BAPTISMS.

1781-1800.

1782.

Nov. 2. John, s. of William and Mary Ross, Ch. Ch.-lane, saddier.

Dec. 24. Harriot, dau. of Mr. William and Margret HARVEY, Ch. Ch.-lane, seedsman.

1785.

Feb. 28. Henry, s. of the above Wm. and Margret HARVEY.

1786.

Augt. 6. John, s. of William and Dinah SLATER, parish schoolmaster.

Nov. 31 (Sic.) William, s. of Wm. and Mary GILLWAY, Borr-court.

Dec. 15. William, s. of Mr. Wm. and Margret HARVEY, Ch. Ch.-lane.

1787.

Jan. 28. Rebecca, dau. of James and Prescillo GYLN, Chapter-court, spurr maker.

March 29. Susanna, dau. of James and Jane M'CREERY, High-street, woollen draper.

July 30. William, s. of James and Jane MARTIN, Angel-alley, upholder.

Nov. 18. Alice, dau. of William and Ann DORAN, Michael's-lane.

Dec. 1. Robert, s. of Luke and Elizabeth BERNARD, High-street, clerk.

Dec. 8. Maria Jane, dau. of Wm. and Helen LEET, Merchant-quay.

Dec. 28. Sarah, dau. of Alex. and Margret M'CULLAGH, Michael's-lane, printer.

1788.

Jan. 13. William, s. of Wm. and Ann THOMPSON, Michael's-lane, cutler.

March 16. Sarah, dau. of Charles and Elizabeth SATCHELL, Michael's-lane.

March 17. John, s. of William and Elinor EDMISTON, High-street, flannel dealer.

March 30. William Henry, s. of Wm. and Dinah SLATER, par. schoolmaster.

March 30. Elizabeth, dau. of Edward and Jane WALLER, Michael's-lane, joiner.

June 8. John, s. of William and Mary PITTMAN, High-street, cabinet maker.

June 20. Sophia Prescott, dau. of Robert Prescott STEWART and Mary, his wife, Cook-street, taylor.

June 22. Mary, dau. of William and Elinor NORTH, Jones's-court, watch-spring maker.

Oct. 18. Robert, s. of Robt. and Mary BERRY, notary public.

Dec. —. Robert, s. of Robert and Ann COLLIS, cook.

Dec. 28. Elizabeth, dau. of John and Rose BENNETT, Michael's-lane.

1789.

March 1. Mary, dau. of Crosbie and Jane EATON, Michael's-lane.

March 8. Mary Ann, dau. of Robert and Catherine VAUGHAN, High-street, clerk.

March 22. Patrick, s. of Edward and Cathrine GRADY, Cox's-court.

March 27. Wm., s. of Michael and Mary LONG, Michael's-lane.

March 29. Josias, s. of John and Sarah GREY, Skinner-row.

May 31. Harriot, dau. of William and Helen LEET, Merchant-quay.

June 15. James, s. of Wm. and Elinor EDMISTON, High-street.

June 21. Mary, dau. of John and Jane FORE-SAYTHS, Cook-street, writing clk.

July 29. Sophia, dau. of Edward and Mary COPE, Cook-street, clerk.

Nov. 29. Lewis, s. of Charles and Jane SARGENT, High-street, watch maker.

Dec. 5. John Frederick, s. of Wm. and Dinah SLATER, parish clk.

1790.

Jan. 17. Elizabeth, dau. of Wm. and Elinor NORTH, Jones's-court.

March 28. Isabella, dau. of Henry and Mary RIDLEY, High-street, brush maker.

April 9. John William, s. of John and Sarah GRAY, Skinner-row, upholder.

May 4. Edward, s. of Edwd. and Judith DRAPER, High-street.

May 23. John, s. of Wm. and Elinor EDMISTON, High-street, ticken merchant.

June 1. William, s. of Wm. and Helen LEET, Merchant-quay, taylor.

June 8. Ann, dau. of Robert and Margret ELLIS, Michael's-lane.

Oct. 7. James, s. of Thos. and Jane CUSACK, Michael's-lane.

Oct. 17. Dinah, dau. of Alexander and Ann ANDERSON, Cook-street, copperplate printer.

Oct. 25. Margaret, dau. of George and Mary BYRE, Borr-court.

1791.

April 14. Elliot, s. of John and Ann FALKNER, Michael's-lane.

May 5. John Hely Hutchinson, s. of John and Isabella FOWLER, High-street, ticken merchant.

Sept. 8. Mary, dau. of Thomas and Jane CUSACK.

Sept. 29. Geo., s. of Walter and Cathrine NANGLE, Merchant-quay, gentleman.

Oct. 25. James Faucet, s. of Wm. and Hannah TOMLINSON, Co. Wicklow, gentn.

Nov. 12. Hannah, dau. of William and Dinah SLATER.

Nov. 24. Wm. Henry, s. of Wm. and Elinor NORTH, Jones's-court.

1792.

May 2. William, s. of Joseph and Elinor REYNOLDS, 11 Cock-hill.

Augt. 21. George, s. of George and Mary BYRNE, bapt. by the Rev. Mr. Watters.

Sept. 3. Bridget, *dau.* of Wm. and Ann THOMPSON, Cook-hill.
 Oct. 28. Edwd., *s.* of William and Helen LEET, Merchant-quay.
 Nov. 5. Richard, *s.* of Walter and Ann NANGLE, Merchant-quay, gentleman.
 Nov. 27. Robert, *s.* of Benjamin and Hester MATHEWS, Angel-court.
 1793.
 Feb. 24. Martha, *dau.* of Simon and Ann WHITFIELD, Cook-street.
Mem.—Arch Bishop's Visitation held in St. Peter's Church, May 25th. The abstract of this Register for the past year sent in on that day.
 May 26. Mary, *dau.* of James and Elinor REYNOLDS, Cook-hill.
 July 10. Mary, *dau.* of Wm. and Jane EDMISTON, High-street.
 July 11. Mary, *dau.* of Faulkner and Ann ELLIOT.
 July 28. William, *s.* of Wm. and Elinor NORTH, Jones's-court.
 Augt. 11. Henry Paris, *s.* of Robert and Hannah DAVID, parish clerk and school-master.
 Nov. 17. James, *s.* of John and Frances HETHERINGTON, 19 Michael's-lane.
 Nov. 24. Elizabeth, *dau.* of John and Cathrine BLACK, 2 Michael's-lane.
 1794.
 April 7. Henry, *s.* of Wm. and Henry BURROWS, High-street.
 June 24. Thomas, *s.* of Thos. and Jane CUSACK, Michael's-lane.
 July 6. Hannah, *dau.* of Robert and Hannah DAVID.
 Sept. 7. Mary Ann, *dau.* of Henry and Mary RIDLEY, High-street.
 Sept. 17. Andrew, *s.* of Thos. and Cathrine HENDRICKEN.
 1795.
 Feb. 29. Margret, *dau.* of John and Elizabeth ELLIOT.
 May 5. William, *s.* of James and Rebecca DOBSON.
 Sept. 6. Thos., *s.* of Thos. and Mary NEVITT.
 Sept. 27. Martha, *dau.* of William and Margret SMYTH.
 Dec. 7. Eliza., *dau.* of James and Sophia MILLINGTON.
 1796.
 Jan. 3. Ann, *dau.* of William and Francis DUNBAVIN, High-street, Chandler.
 Feb. 7. Cathrine, *dau.* of Mr. Wm. and Elinor EDMISTON.
 Feb. 28. Margret, *dau.* of James and Elizabeth LONGMORE.
 April 19. John, *s.* of David and Grace FLEMING, High-street.
 Augt. 7. Elinor, *dau.* of William and Elinor NORTH, Jones's-court.
 Sept. 17. William, of John and Mary DOOLAN, High-street.
 Dec. 18. Mary, *dau.* of Wm. and Francis DUNBAVIN, High-street.
 1797.
 Jan. 15. Eliza, *dau.* of Arthur and Mary DOWNER, High-street.
 Feb. 6. Margaret, *dau.* of George and Mary KENNEDY, High-street.
 May 2. James, *s.* of James and Rebecca DOBSON, Skinner-row.
 July 30. George, *s.* of Thos. and Jane DORAN, High-street.
 Augt. 5. Eliza, *dau.* of Benjamin and Mary MATHEWS, Angel-court.
 Sept. 3. Emilia, *dau.* of John and Emilia Townsend SINNOT.
 Sept. 8. Robert, *s.* of John and Sarah DAVIS, of the Antrim Militia Regiment.
 Sept. 25. Eliza, *dau.* of Robert and Mary WILLARD.
 Dec. 5. Grace Ann, *dau.* of David and Grace FLEMING, High-street.
 1798.
 Jan. 28. Thomas, *s.* of Thos. and Margret HILL.
 Feb. 17. Ann, *dau.* of Joseph and Ann AUSTIN.
 Feb. 24. Alexander, *s.* of Benjamin MATHEWS, Angel-court.
 March 11. Sarah, *dau.* of William and Frances DUNBAVIN.
 May 5. Ann, *dau.* of William and Elinor NORTH.

July 8. Francis, *s.* of Mr. Thos. and Lucia REED, Cook-street.
 Augt. 9. Thos., *s.* of Wm. and Abigail MOONEY.
 Augt. 11. James Holmes, *s.* of Benjamin and Sophia M'DONALD, High-street.
 Sept. 22. John, *s.* of Bernard and Ann RAFTER.
 Dec. 19. John, *s.* of James and Rebecca DOBSON, Skinner-row.
 1800.
 July 1. Lucinda, *dau.* of Mr. Thos. (and Lucinda REED, Cook-street.
 Oct. 27. Hannah Lynar, *dau.* of Henry and Cathrine DARLEY.
 Nov. 2. John, *s.* of Alexander and Margret HART.
 MARRIAGES.
 1781-1800.
 1781.
 July 27. Joseph HALL, a baker, and Catherine TONGUE, φ Consistorial licence, by Rev. Mr. Reed, who officiated for the Rev. Mr. Murray, who was then in ye country, said Catherine Hall was a prisoner at Mr. Eustaces, Chapter-court.
 Oct. 6. Frederick GIBSON, stone cutter, of the County of Dublin, and Cathrine WHITE, spinster, of the parish of St. Michael, were married at Mr. Walshe's, 25 Bolton-street, by the Rev. Dr. Blundell, minister of St. Michael's, by virtue of Consistorial licence, directed to the said parish.
 1782.
 April 18. Charles KEIGHTLY, of Phoenix-street, and Mary GARROWAY, spinster, of St. Michael's parish, φ Consistorial licence.
 Sept. 11. Robert MASSEY, gent., and Elizabeth MASSEY, *dau.* of Thomas Massey, of High-street, shoemaker.
 1786.
 May 6. Silvester SHAW, of the King's County, gentleman, and Elinor DOWLY, of the parish of St. Michael, φ Consistorial licence, by the Rev. Dr. Wilson of the College.
 1787.
 Jan. 21. Luke BERNARD, of the city of Dublin, gentleman, and Elizabeth MEEAM, widow of the late Samuel MEEAM, by Consistorial licence. (See her first marriage under July 4, 1776.)
 Nov. 21. Edward DONROCHE, Esq., and Miss Elizabeth FAWCET, of High-street, φ Consistorial licence, by the Rev. Dr. Drury.
 Dec. 25. William KENNEDY and Margret STEPHENSON, by publication of banns in St. Mary's Chappel (Christ Church), by Rev. Mr. Clossy.
 Dec. 27. George WEBSTER and Ann HILL, by publication of banns, in St. Mary's Chapple, by Rev. Mr. Clossy.
 1788.
 Nov. 8. Thomas ANDERSON, of the city of Dublin, fruiterer, and Bridget SULLIVAN, of Cook-street, spinster, by Consistorial licence.
 1789.
 Jan. 1. Thomas CUSACK and Jane M'CLEARY, both of the parish of St. Michael, by publication of banns, in St. Mary's Chappel, by Rev. Bartholomew Clossy.
 Aug. 9. Alexander ANDERSON, of the parish of St. Michael, copperplate printer, and Ann QUINTON of the same, spinster, by pub. of banns, in St. Mary's Chappel, φ Rev. Dr. Dobbin, Prebendary of St. Michael's aforesaid.
 Nov. 8. James ADAIR and Cathrine MOLLOY, by pub. of banns, in St. Mary's Chappel, φ the Rev. Mr. Savage, who officiated in the room of the Rev. Dr. Dobbin, Preb.
 1790.
 Jan. 29. George HOLMES, of Stewards-town, County of Tyrone, gentleman, and Margaret MULHERN, of High-street, spinster, φ licence, by the Rev. Henry Savage, curate assit., St. Michael's.
 April 22. William TOMLINSON, of Rathdrum, County of Wicklow, and Hannah FAUCET, of High-street, spinster, by the Rev. Dr. Dobbin, by licence granted for that purpose.

May 23 (Whitsunday). William John ADAMS and Barbara DAVIS, widow, both of the parish of St. Michael, φ pub. of banns, in St. Mary's Chappel, by Rev. Mr. Savage.
 June 20. Launcelot HEALY and Esther M'CONKEY, widow, both of the par. of St. Michael, married in St. Mary's Chappel (Christ Church), φ pub. of banns, by Rev. Hen. Savage.
 1791.
 April 24. Edward M'GRATH and Jane WILLS, spinster, both of the parish of St. Michael, φ Consistorial licence.
 1794.
 [No date.] Mr. William LEET, of the Merchants-quay, and Mrs. Ann Troy, of —, φ Consistorial licence.
 July 27 (Sunday). John HEMPENSTALL, of the city of Dublin, gentleman, and Eliza LEONARD, φ Consistorial licence, by Rev. Mr. Fawcett.
 1795.
 Feb. 18. William STERLING, of Golden-lane, watch maker, and Frances CLINCH, of Jones's-court, High-street, φ Consistorial licence, by the Rev. Mr. Drury.
 1798.
 Dec. 2. John HEYNES and Frances HUTTON, both of the parish of St. Michael, by publication of banns.
 1799.
 Jan. 6. Thomas MURTAGH and Margret PEGLY (both of the parish of St. Michael), φ publication of banns.
 June 26. Thomas THACKER, of Skinner-row, and Miss Sarah FAUCET, of High-street, φ Consistorial licence, by Rev. Mr. FAWCETT.
 1800.
 Feb. 12. Robert LODGE, of Grafton-street, and Elizabeth BATE, of Christ Church yard, spinster, φ Consistorial licence.
 May 27. Richard FRANKLIN, of Crow-street, merchant, and Mary GAMBLE, of High-street, spinster, φ Consistorial licence.
 Dec. 25. Thomas BISHOP and Mary BENNET, spinster, φ publication of banns, according to the rights and ceremonies of the Church of Ireland by law established.
 [No date.] Robert DARLINGTON, of Monastery, in the County of Wicklow, and Miss Cathrine FAWCET, φ Consistorial licence.
 BURIALS.
 1781-1804.
 1785.
 March 8. Mary JONES, Rosemary-lane.
 Aug. 13. Bridget M'GUIRE, Michael's-lane.
 Sept. 11. Mrs. CONSTABLE, church.
 Dec. 23. John FITZPATRICK, Schoolholane.
 1786.
 Feb. 13. William JACKSON, Cook-street.
 July 16. Rose COLEMAN, Cox's-court.
 Sept. 24. James M'MANUS, Rosemary-lane.
 1787.
 March 24. Mrs. HUGHES, Michael's-lane.
 April 24. Susanna HILL, Cook-hill.
 1788.
 Jan. 31. Mr. Richard HEATHER's child.
 Feb. 3. Do. do.
 Dec. 27. Mr. John STEWART, from Merchants-quay.
 1790.
 March 21. Mary WILLIAMS, late of Ch. Ch.-lane.
 1795.
 June 22. Mary SIMPSON, Michael's-lane.
 1796.
 April 18. Bridget DUNN, from Ch. Ch.-lane.
 1800.
 Jan. 26. Robert BROCAS.
 1804.
 March 26. Cathrine PRICE.
 END OF BURIALS.
 (To be continued.)

THE EIFFEL TOWER.—A contract has been let for the construction of the Blackpool Eiffel Tower, to be erected in steel. The approximate weight is 1,500 tons, in addition to the staircase, gates, and flag-staff as specified. Messrs. Maxwell and Take, Manchester, are the architects. The tender of Messrs. Heenan and Froude, Newton Heath, near Manchester, for £40,500, has been accepted.

DRAINAGE AND OTHER ITEMS.

THE CITY MAIN DRAINAGE.

A SPECIAL meeting of the Municipal Council was held for the discussion of the plan submitted by Mr. Chatterton for main drainage.

The Lord Mayor, in moving the adoption of the report of the committee, said that the council and the citizens should be satisfied—first, that there was a necessity for main drainage; secondly, that the scheme proposed was satisfactory and economical; and, thirdly, that the taxation for the works should be such that the ratepayers could find no fault with it. Twenty-five years ago, attention was first directed to the want of main drainage and to the pollution of the Liffey. In 1870 things had reached such a state that the Lords Justices and the Privy Council gave notice that unless the Corporation carried out the necessary works, the matter should be taken out of their hands. In 1871 an act was obtained, the estimated cost of main drainage and saving the river from pollution being then £350,000. Mr. Park Neville, City Engineer, had Mr. Bazalgette associated with him in preparing the plans and estimates upon which the contracts were to be sought, but in 1873 wages and materials had so risen in price, and the cost of coal having nearly doubled, the estimate for the main drainage works was swelled out to £775,000. In 1874 some changes were made in the working drawings and plans, and the cost was then lowered to £411,000; but as the Corporation were only empowered to spend £350,000, the whole scheme lapsed. In 1878 the Public Health Act was passed, and it was Sir Charles Cameron's main duty to have the old system of convenience replaced by the modern water-closet. The result was that the amount of sewage now going into the river was fully double what it was in 1871. The committee now having the matter in hands, has under consideration some plans of main drainage by different engineers, including Mr. Griffith, Mr. Strype, and others. The City Engineer, Mr. Harty, the representative of the committee, went to London, and consulted Sir Benjamin Baker, the greatest living authority on the subject. Sir Benjamin was unable to come to Dublin, but on his recommendation Mr. Chatterton, the son-in-law of Mr. Bazalgette, was employed. Mr. Chatterton came over, and examined all the plans previously submitted to the council. He surveyed both sides of the Liffey. He inspected Howth and other proposed outlets for sewage. He put down floats in the bay to test the currents, and as the result of his investigation of the whole subject, Mr. Chatterton submitted a report and scheme of his own, which had been for some time in the hands of the council. That scheme provided that two systems of main sewers should be laid, one starting from Kingsbridge on the north side of the river, and running down to O'Connell Bridge; another starting from Island Bridge on the south side, and running to Kingsbridge. Another was to start from Kilmainham and join one from Island Bridge before reaching Kingsbridge. Then there were to be low-level sewers from Kingsbridge, along the quay sides, to a point opposite Marlborough-street, where the main sewers would be struck, and all the sewage would be taken thence by an outfall sewer 8 ft. in diameter to a pumping station at the White Bank, about half a mile east of the Pigeon House. Precipitating tanks would be provided, and the crude sewage stuff having been heated chemically, the water left would be colourless. That system had been found in satisfactory operation at Sheffield. The Lord Mayor stated some further details of the scheme, which provided for pumping stations and the carriage of sewage stuff by steam-hoppers to deep water off Howth, and said Mr. Chatterton's estimate of cost was £250,000, to which Mr. Harty had added £25,000 for necessary additions, making the total expense £275,000, which would be obtained on loan, repayable, part in twenty,

part in thirty, and part in fifty years. Now, as to the taxation, a rate of 8d. in the pound would suffice to pay off the loan instalments and defray the expense of maintenance of the works. He thought the rate of 8d. in the pound moderate. The committee, having given the subject their best attention, he cordially recommended the plan of Mr. Chatterton for adoption.

Mr. J. L. Robinson, C.E., seconded the motion, and said the committee when first appointed were in favour of the Howth scheme; but, on seeing the difficulties and cost of any such plan, they had adopted Mr. Chatterton's precipitation works, as being the most economical, and situated in the least objectionable part of the estuary of the Liffey.

Mr. W. J. Doherty, C.E., said that all recent schemes for sewerage went on the lines of discharge into deep sea, and not precipitation works, except at Barking; but as the committee adopted the precipitation plan, he would not set up his opinion against them. He, however, found fault with the particular site chosen, and with the estimate as being too low. If the precipitation works were placed at Annesley Bridge it would be much better and cheaper.

Mr. W. R. Maguire said, that being the youngest member of the council, and least experienced in the proceedings of its committees, perhaps his lordship would permit him to say a few words, and voice some of the questions which the public may desire answered. Main drainage was the greatest step in the direction of thorough sanitary reform. The Whitebank precipitation scheme recommended by the committee appeared feasible. It might be the best scheme—they wanted the very best they could get at reasonable cost, but they wanted to be quite sure it was the best. Although he liked this scheme, so far as he had been able to judge of it from their reports, he was not sure of it. He was not satisfied with the extent or manner of the float experiments, and he did not feel certain that the varying currents into which the sewage or the effluent might be eventually discharged, had been positively ascertained, either at Howth or at Whitebank. In that report he said—"Sewage discharged at the Bailey Lighthouse would without doubt be carried out to sea, and I believe this to be the only safe point to discharge the crude sewage of Dublin into the sea" (p. 408). He (Mr. Maguire) believed, from reading their reports, that the Howth outfalls had been abandoned, chiefly because the currents were considered unfavourable. . . . If they showed that the Howth outfalls were not available, then the point was a settled one. He did not think that Mr. Griffith's scheme, alluded to in the report, with the Howth outfall drain inverted above high water, and without any objectionable embankment along Clontarf road, had been placed before them with sufficient prominence. Messrs. Harty and Chatterton in their report said:—"With regard to the Howth scheme, if it were to be carried into effect, possibly that proposed by Mr. Griffith would be found to be the best—viz., the collecting of the sewage into a regulating reservoir in conjunction with a pumping station from which the sewage would be forced through iron mains to the mouth of a tunnel near Sutton, and from thence to the Bailey, the sewage being raised to such height that it will discharge by gravitation, and yet have its invert at the outfall about high water level, but we fear the cost would be very great, and exceed Mr. Griffith's estimate." Mr. Chatterton said the sewage would flow out to sea from the Bailey, and the two engineers only gave it as their opinion "that the cost would exceed Mr. Griffith's estimate." Why then was Mr. Griffith's scheme shelved? He (Mr. Maguire) had considerable faith in Mr. Griffith's judgment, in his exceptional knowledge of the river, harbour, and bay currents, and he stated that the discharge of the effluent as proposed under the Whitebank scheme "will not free the port and harbour

of Dublin from pollution, and will pollute the foreshore at Clontarf." Where was Mr. Griffith's scheme, and why was it not before them? Mr. Griffith read a paper at the Sanitary Congress in Dublin, 1884, on "Dublin Main Drainage Outfalls," he would read an extract:—"We have now had several years' experience of the actual working of the Rathmines and Pembroke main drainage system. The results proved the truth of the predictions that this scheme would result in the pollution of the lower reach of the River Liffey, and that a great proportion of the sewage would never get out to sea, but be carried by the flood tide on to Clontarf strand. The experience of the past summer seems to me to put this beyond the region of doubt, and so thoroughly impressed am I of the injurious character of the pollution caused by this outfall that I believe no scheme will satisfy the conditions of the Royal Commissioners unless it deals with the drainage of Rathmines and Pembroke, and intercepts the sewage at present discharged at the Whitebank outfall, and thus frees the river and harbour from pollution." He believed it would. Again, he noticed that there were three distinct pumpings necessary in the Whitebank scheme—pumping at the North Lotts low drains, pumping at the Main Station, Ringsend, pumping of the sludge from the tanks into the barges—after the precipitation process, and even then the barges had to put out to sea with captains and crews, in all weathers, except storms, to discharge the sludge rendered worthless as manure by the lime—and to return for more. He would ask that another independent leading opinion, such as that of Baldwin Latham, C.E., or some equally experienced sanitary authority, should be obtained on the plans before them, either now or before the Local Government Board inquiry took place. The citizens would not object to this additional small outlay to make assurance doubly sure.

Alderman Dillon thought the Council would act wisely in adopting the report of the committee as it stood, and in proceeding on the advice which they had already obtained to carry out the work. If it were passed, then the only other question was, what was the best site to be selected? The committee gave the best consideration to the whole matter; they consulted the best engineers, gentlemen who stood high in their profession. The whole scheme would be submitted, with the engineer's evidence, to a commission of practical engineers to be appointed by the Local Government Board. He had no doubt that a number of gentlemen would oppose it. They would all be invited to submit their schemes to the Local Government Board inspector, and there would be abundant opportunities for them to consider the matter. If the result of the Local Government Board inquiry should be that the board would not approve of the scheme, it would of course, not be carried out.

The Lord Mayor, in concluding the discussion, said that he had gone through Mr. Chatterton's scheme fully, and he believed it would be found the most satisfactory. He would now submit the following resolution:—That the report be adopted, and that the committee be empowered to take the necessary steps to carry it into effect, with such modifications as they may find desirable, and do proceed by Provisional Order to obtain the necessary lands, and do arrange to raise for the purpose a loan of £278,000.

The resolution was adopted.

THE KINGSTOWN AND BLACKROCK MAIN DRAINAGE.

A special meeting of the Kingstown Commissioners was held in the Town Hall on the 21st ult., to consider whether the Commissioners should join the Blackrock Commissioners in promoting, or whether they should oppose, the bill now being promoted by the Blackrock Commissioners, and known as the Blackrock and Kingstown Main Drainage and Improvement Bill.

The Chairman asked Mr. Kavanagh, solicitor to the board, whether everything had been done to enable the board to proceed that day to consider their special business?

Mr. Kavanagh did not think that the notice was technically full and sufficient. It might be a serious thing if the standing orders of the committee found the notice insufficient. As there was plenty of time, would it not be well to postpone the matter, rather than run the risk of having the bill rejected?

The Chairman said that two questions were involved in this. First—whether they could pass a resolution that day? and secondly—whether they could call upon the ratepayers to support that resolution? He would ask the board not to run any unnecessary risk which might in the end vitiate the whole proceedings.

Colonel Bidwill urged the postponement of the meeting till the 7th January, but if any resolution were to be proposed that day, he would propose:—

That as the Blackrock Commissioners have lodged a bill in Parliament to carry out a Main Drainage scheme between their township and that of Kingstown, without the consent of the Kingstown Commissioners, and believing that the proposed plans and objects set forth in the bill would be in every way injurious to the interests of Kingstown, we hereby resolve, under the provisions of the Borough Funds Act, 1888, or any other available act, to strenuously oppose said bill in Parliament.

The Chairman asked whether it would be prudent to take any proceedings that day on that or any other resolution? He would move:—

That the further consideration of the subject be adjourned until an early day in January, in order to enable the ratepayers of this township, who have hitherto expressed no opinion, to consider the question of this scheme.

Mr. Brown seconded the motion.

Mr. J. L. Robinson, C.E., said he would move an amendment.

The Chairman ruled that he could not do so; that no discussion could take place on such a motion. The board might be surprised at his motion, but with regard to this scheme he felt that the people of the township and the board had been scandalously and improperly treated.

Mr. Robinson rose to order. If no discussion were permissible on this motion, then the chairman himself should not discuss it.

The Chairman said he was putting the resolution to the board.

Mr. Robinson said that if he were not allowed to speak on the merits of the case, a party with other opinions should not be allowed. He came there prepared to give his opinion as to the advisability of some scheme of main drainage for the benefit of the Kingstown township, and it was scarcely fair that those who, like himself, were conversant with the entire details of the matter should be practically muzzled on the subject. It was scarcely fair to spring this motion on the board, for he had intended to join in the discussion and to state his reasons why the board should not have adjourned, and also to give his opinion as to the legality of the constitution of that meeting.

The Chairman said he did not propose to discuss the question, but he thought he was entitled to answer an observation made by a ratepayer, who asked for what they had been brought there. He would prefer to have the matter discussed after the ratepayers had an opportunity of expressing their opinions. He did not wish to say a word for or against the scheme, but he wished to have the meeting adjourned to some day beyond the 1st of January, which would suit the convenience of the ratepayers and the public.

Mr. A. S. Findlater (amidst some interruption from the chairman) said he would just read the words of the by-law applicable to the discussion. It read—"That discussion shall not at any time be permitted upon a motion for adjournment." The chairman

had not acted fairly in accordance with the by-laws, but had given himself a latitude which he would not allow to Mr. Robinson or others.

The Chairman said the public were the proper people to be consulted on the matter.

A poll was then taken, when there voted—for the adjournment, 13; against, 7.

The Chairman said he had pleasure in announcing that the question should stand adjourned till next year.

One of the ratepayers as he was leaving the room said that he and others would not permit Kingstown to be made a cesspool of.

The ordinary business of the monthly meeting having been disposed of, the Board adjourned.

THE DRAINAGE OF NAAS.

At the Meeting of the Board of Guardians on the 16th ult., the clerk read the following:—

In reference to your letter of 10th inst., I beg to inform you that no such committee is at present in existence as the Sewerage Committee. That committee was dissolved by resolution in October, 1889, and the committee of which I am at present hon. sec. was appointed to consider a scheme of water supply for the town of Naas, the proceedings of which I have forwarded to you on November 17th. I beg to return you Dr. Smyth's report with reference to the drain on Sallins Road, and also Mr. O'Hanlon's report, and I may add that the Town Commissioners, through their chairman, think it advisable to have all questions relative to the sanitation of Naas, in the hands of the authorised body, namely the poor-law guardians. I feel confident that the Town Commissioners will at any time be most happy to assist the sanitary authority with any information in their power.

DENIS DONOHUE, Hon. Sec.

Clerk—They are quite right. If the board of guardians are the sanitary authority, they ought to do their own business, and not delegate their work to anybody!!

The following letter was received from Mr. T. J. de Burgh:—

In connection with the question of Naas Drainage, I beg to suggest that the sanitary authority do take legal opinion on the following points:—(1)—Should they adopt (if not already done) part III. of the Public Health Act of 1890. (2)—Having done so, would they have power (a) to insist on the present (so-called) town sewers being used for any purpose but that of carrying off surface water; (b), to extend the dry-earth system to the whole town of Naas, compelling householders to comply with the general plan (if so, the catch-pit question might possibly be dropped); (c) to pass by-laws, to confirm their decision arrived at on the 23rd October, 1889. In my opinion, the scheme adopted on that occasion (on the recommendation of the Naas Board of Guardians and Town Commissioners, and approved of by the medical officer of health), was a practical solution of the Naas Drainage difficulty. I am prepared to show that the catch-pit system, if necessary, can (with all deference to the contrary opinion of the board's engineer) be safely carried out. If a water system is to be again proposed, in the face of the decision of all the representatives of Naas, let us see who proposes it, and what their scheme is. I beg to direct the special attention of the board to sec. 23 of 53, 54 Vic., cap. 57; and, as regards the housing of the working classes, to 53, 54 Vic., cap. 70, especially secs. 30, 31, 32.—T. J. DE BURGH.

[On referring to our issue for May 15th, 1880, we find that the sanitary authority of Naas offered premiums of £100 and £50 respectively for the main drainage of the town, when four engineers competed, viz.—P. M'Cann, Dublin; F. A. Doyle, Kingstown; Pritchard, Birmingham; and Nichol, Birmingham. The committee decided that (as far as they were competent to judge) Mr. Nichol's plan was the best of those submitted, and this was accepted by the guardians, and ordered to be forwarded to the L. G. B. The cost was put down at £2,824 13s. 5d. It is to be hoped that, as the matter is again on the tapis, the sanitary authority will quickly take the necessary steps.—ED. I. B.]

BLACKROCK.

At their meeting on Wednesday the board had under consideration a proposal to seal an application to the Local Government Board to sanction the raising of a loan of £4,000, for the purpose of widening of streets at George's-avenue and other places, and for the purpose of acquiring a site for erection of artisans' dwellings at Carysfort-avenue.

The secretary said that although the application was for £4,000, the whole of that sum might not be granted or required.

Mr. Crowe was of opinion that none of it was required. They were going too fast, and they would have a rate of 5s. in the £ if this sort of thing went on. The streets were as wide as ever they had been, and as to the artisans' dwellings scheme, it was only a job to buy out a few old houses!

Mr. Colclough moved, and Mr. J. J. Robinson seconded, that the application should be signed and sealed, as required.

The Chairman put the question, and declared that the ayes had it.

Mr. Crowe challenged a division, with the result that the ruling of the chairman was sustained by 10 votes to 5.

PROGRESS OF THE MERSEY TUNNEL.

At the meeting of the Liverpool Water Committee on the 22nd December, the following report was submitted by Mr. Deacon:— "The progress continues to be satisfactory. Out of 805 ft.—the distance from the centre of the Lancashire shaft to the centre of the Cheshire shaft—a length of 352 ft. was completed at the end of last week. On the resumption of work on 12th November last, after the Corporation had taken it into their hands, a rate of about 25 ft. a-week was attained. The rate has since been increased, and last week a length of 49 ft. 6 in. was driven and lined. It is probable that about 50 ft. a-week will prove to be the maximum speed attainable with the old shield, defective in many respects and patched as it is. This is undoubtedly satisfactory progress, but with a new shield, designed by the light of experience gained in this work, there can be no doubt that an even higher speed can be obtained, and that the operations could be carried on with little or no risk. The immunity from serious stoppages since the resumption of the work has been chiefly due to the fact that no important disturbance of the strata surrounding the tunnel has taken place. The materials are still for the most part open gravel, sand, and silt, crossing the face of the work in ever varying thickness, and so long as they remain unbroken and the shield is simply called upon to cut through them a circular hole 10 ft. 3 in. in diameter, the difficulty and danger of driving is reduced to a minimum. The tunnel is now under the deepest part of the channel, from which it is separated by about 22 ft. of open water-bearing strata. The depth of the water in the channel at high tide is 22 ft., and the head of water at the lower part of the exposed face is then about 54 ft."

TENDERS.

At a recent meeting of the Commissioners of Dalkey Township, three tenders were submitted for flagging a footpath at Sorrento-road. The Victoria Stone Company offered to lay their flags for 5s. 2d. per yard, and, if a better quality was desired, they would charge 6s. 2d. The Ferrumite Company proposed to do the work for 6s. per yard; and the Hampson Stone Quarry Company at 4s. 9d. per yard, including the redressing of kerbing, also carting, laying, and doing all things needful to complete the footpath.

For supplying three jacketed kitchen boilers for Newry Board of Guardians:—

| | | | |
|---------------------------|----|----|-----|
| Riddell and Co., Belfast | .. | .. | £82 |
| Samuel Fleming (accepted) | .. | .. | 89 |

NOTES OF WORKS.

Another competition is on the way. The committee of the First Presbyterian Church, Londonderry, invite designs in competition, for school buildings, proposed to be erected on a site on the Mall Wall and Stable-lane.

The guardians of the Mitchelstown Union are seeking tenders for the construction of waterworks, including reservoir, distributing pipes, &c., the time for receiving which at their union is the 14th inst.

The Parish Church of Glanmire, Co. Cork, has lately undergone enlargement, the old chancel having been much improved by the mosaic pavement, of Aberdeen granite. Choir stalls of solid oak and a beautifully carved reredos have also been placed in the church. The latter has been executed by Cork workmen. A handsome organ has been erected by Mrs. Magahy, of Cork, which is excellent in workmanship and finish, and of much sweetness.

MISCELLANEOUS.

IRISH BILLS IN PARLIAMENT.—The following bills have been deposited in the Private Bill Offices of the Houses of Parliament:—Kingstown and King-bridge Junction Railway; Armagh and Keady Light Railway; Cork, Fermoy, &c., Railways; Belfast Corporation (Lunatic Asylums), Cork Harbour Pilotage.

THE LAW AS TO "COMMON EMPLOYMENT."—Lord Cranworth, in a very well-known case, stated that—"When several workmen engage to serve a master in a common work, they know or ought to know the risks to which they are exposing themselves, including the risks of carelessness, against which their employer cannot secure them, and they must be supposed to contract with reference to such risks." But this is wholly against commonsense and ordinary experience. A workman no more contemplates, as we have said, carelessness on the part of his fellow-workman than the railway traveller contemplates negligence in a signalman. But such is, and has long been the law. The decision in *Johnson v. Lindsay and Co.* makes the rule less strict than both in England and in Scotland it has for some time been. The person who set up the defence of "common employment" must now show that the two men were in his service, not permanently or for a defined time, but at the date of the accident. Let us see what were the facts of this recent and important case. They are shortly but sufficiently stated in the head-note of the report:—"Builders contracted to build a block of houses under a specification prepared by the owner's architect, certain fire-proof portions of the houses to be executed by the respondents, who were iron-founders. The respondents contracted with the architect to do their portion of their work, and had no contract with the builders, and were not under their direction or control. While the respondents were carrying out their contract, workmen employed by them in raising concrete to the upper storey of the building negligently let a bucket fall on the appellant, who was working in the lower storey, in the employment of the builders." In addition to these facts, it should be stated, to make the matter quite clear, that the injured man was engaged and paid by the builders, and that the workmen by whom he was injured were engaged and paid by the respondent. They were thus under distinct employers, and were working quite independently in the same block of buildings. It is surprising that any court could have held any "common employment" existed in such circumstances. But the courts below the House of Lords held that it existed, while the House itself differed from them without hesitation, thus replacing the law on a sound and satisfactory footing.—*Builder.*

HERTFORD PARISH CHURCH.—The following details of the destruction by fire of the fine old parish church of All Saints, Hertford, have been published:—When the fire-brigade arrived, the whole edifice was ablaze, and it was evident that they could not check the progress of the fire. The roof soon fell in, and it was followed by the grand old tower and its famous peal of bells, well known to lovers of Campanology. Soon there was nothing left but the blackened walls, surrounding heaps of smouldering debris, a mere skeleton of the former ancient pile. All the regimental colours and the Crimean monument have been destroyed, likewise all the monuments to the Townshend and Dimsdale families, some beautiful stained glass memorial windows of great value, a very fine organ, the peal

of ten bells—in fact, everything has been destroyed except a few old registers, which were saved with great difficulty. The ruins and church-yard, which is one of the finest in the kingdom, have been visited by large crowds of sympathisers. The gallery belonged to Christ's Hospital, and seated some hundreds of boys and girls belonging to the junior branch. The patrons are, the Lord Chancellor and the Marquis Townshend, and the living is held by the Rev. Thomas Lindey, together with St. John's Parish and that of Brickendon.

THE ELECTRIC LIGHT IN KILKENNY.—At a special meeting of the Corporation on the 22nd ult., it was decided to light the city by electricity. The Borough Treasurer said that the estimated cost of introducing electricity would be about £12,000. The annual cost of maintenance would be £1,020, and the receipts from private customers and other sources, £1,800, leaving £800 to pay the interest on the loan, which would amount to £600. It was decided to apply to the Board of Trade for a provisional order.

ARCHITECTS IN MANCHESTER.—The Architectural Association and the Society of Architects, of Manchester, have been amalgamated, the former body having recently had their last dinner together. Mr. T. Chadwick, president, occupied the chair. Toasts were proposed and responded to; and testimonials were presented to Mr. Davies-Colley, who has acted as treasurer to the association since its foundation; and also to Mr. Mould, who has been hon. secretary for six years.

RAIN MAKING.—According to the *Times of India*, Mr. Wolfe-Murray's rain-making experiments in Madras have been attended by a success so remarkable as to suggest the occurrence of a singularly fortuitous coincidence rather than a triumph of science over nature. The centre chosen for the experiment was Cuddapah, where the rainfall is always scanty, and, neither kites nor balloons being available, the dynamite was placed on a ridge of flat rocks 2,400 ft. above the sea-level and a couple of hundred feet above the plain. A hundred pounds of dynamite were used in all, ten packages of 10 lbs. each being ranged on the rocks at intervals of sixty yards, and fired by time-fuses at intervals of one minute. Nine of the packages were successfully exploded, and six hours later, while the sun was still shining, there came a magnificent shower of rain, such, it is stated, as has hardly been experienced in the district during the present year. The shower lasted half an hour, and was confined to the region affected by the explosions, which Mr. Wolfe-Murray deems a conclusive proof of the success of the experiment. As the total cost was only 200 rupees, it will not be a difficult matter to verify these conditions in other districts.

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The Irish Builder.

NOTICE.

A TITLE-PAGE AND INDEX TO VOLUME XXXIII.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 770.

IRISH RAILWAYS, CANALS, AND HARBOURS.

PRESIDENT'S ADDRESS—INSTITUTION OF CIVIL ENGINEERS OF IRELAND.



T is with sincere satisfaction that I address you in this room. So many years have elapsed since we first endeavoured to accomplish the building of a hall for our meetings, that many of us, I believe, began to despair of living to see it. Hitherto, as you are aware, through the kind hospitality of

the Board of Trinity College, we have been well provided with space in the College Engineering School for our meetings, and I feel sure that we all feel how much we are indebted to the University of Dublin, and especially to the professors of its Engineering School, for their friendly indulgence to our wants. But we have long felt the necessity, for the welfare of this Institution, of holding our meetings in our own house, and at last, chiefly through the untiring labours of a few of our members, we have succeeded in building this fine hall.

Several of your Past Presidents have from time to time laid before the Institution an account of the public works executed in Ireland. I propose to address you only on extension of railways and harbours, and on the present state and possible improvement of our inland navigation.

The general prosperity of the country is of paramount importance in the success of public works, and a few words on that subject may not be without interest. The returns of the Registrar-General of the date July, 1891, show a great increase of wealth in Ireland compared with those of 1881. In Joint Stock Banks the returns of deposits and cash balances give in round numbers £26,000,000 in 1871; £32,815,000 in 1876; falling during the next five years to £28,289,000 in 1881. Since 1881 they have steadily increased, and amount this year (1891) to £33,700,000. In the Post Office and Trustee Savings Banks, taken together, the deposits have increased steadily (with a few small fluctuations) from £3,635,000 in 1881 to £5,850,000 in 1891. So that in the period of ten years there has been a gross increase in all these deposits amounting to £7,636,000.

The traffic on railways may be taken in itself as a fair test of material prosperity; and the receipts for the first half years, from 1887 to 1891, show a steady increase from £1,339,500 in 1887, to £1,506,800 in 1891. During that time there was only an increased length of lines opened of forty-six miles. The total railway mileage in July, 1891, was 2,676 miles, and the average receipts per mile were £563. The total paid-up and borrowed capital of Irish railways is about £37,300,000. In 1862 the portion of railway capital held by resident proprietors was estimated at £12,000,000. It is very difficult to learn what that portion is in 1891; I am informed that the amount held in England has diminished, and that by far the greater part of the capital is held in Ireland.

The mercantile navy of Ireland at the close of 1889 was composed of 1,205 vessels, of about 241,400 tons. The tonnage of vessels entered and cleared at the ports of Ireland has fluctuated in a remarkable manner during the past ten years; the year 1890 compares favourably with the average, especially in the tonnage of entries of foreign trade. As might be expected, by far the greater part of the trade is through the east coast ports. The five west coast ports—Sligo, Westport, Galway, Limerick, and Tralee—show the following numbers of vessels and tonnage:—Vessels—Entered, 1,895; cleared, 1,353. Tonnage (in round numbers)—Entered, 377,000; cleared, 178,000. These numbers are but a small proportion of the entire trade, yet they show that there is a substantial traffic on the west coast.

It would appear from these statistics that the wealth, and with the wealth the trade, of the country have revived after some years of depression, and that we may look forward to some improvement in the returns on the large sums spent upon our public works.

A great impetus has been given to the construction of railways and tramways by recent legislation. The acts of 1883, 1889, and 1890, in addition to the prior Tramways Acts, have diminished the Parliamentary expenses of the promotion of light railways and tramways, and rendered it possible, in many cases, to construct useful lines, opening out the more remote districts of Ireland; and the liberal aid afforded by Government under the act of 1889, has given employment in districts threatened with the periodical distress, which even the youngest of us can remember in previous years.

The development of railway and tramway communication in Ireland formed the subject of a very interesting paper read before this Institution in December, 1883, by Mr. Crook, followed by an important discussion by engineers thoroughly versed in the subject. I shall not venture to express any opinion in this address on the comparative merits of the broad and narrow gauges.

All the lines constructed under the act of 1889, and several of those constructed under the act of 1883, will be worked by already existing companies. The weight of rails employed is in general, per yard, either 45 lbs. or 50 lbs. In two lines (Galway to Clifden, and West Kerry) it is 65 lbs., and in one line (Tuam and Claremorris) it is 72 lbs. Omitting the lines at present in progress as relief works, the mileage of broad gauge lines in progress or already constructed under both acts, is 212½ miles, and the grants and guarantees for their construction amount to £1,233,400. The mileage of narrow gauge lines is 236½ miles, and the grants and guarantees for their construction amount to £978,000. Assuming that these sums indicate the respective cost of the lines, the cost per mile would be as follows:—

| | |
|---|------------------------|
| Broad gauge | about £5,811 per mile. |
| Narrow gauge | £1,139 " |
| Excess of cost of broad over narrow gauge, £1,672 per mile. | |

If the 236½ miles of narrow gauge had been constructed on the broad gauge, the additional expenditure would have been about £395,000 (according to the above figures). Before the passing of the Tramways Act of 1883 there were already 109 miles of narrow gauge railways constructed, without counting the two electric railways of Bessbrook and Portrush and the Lartigue

railway to Ballybunion; and, even admitting the inconvenience which may arise from the change of gauge where the two systems are in contact, it should be borne in mind that increased expenditure would, in many parts of Ireland, have made it difficult, if not impossible, to construct these lines. The total length of all these railways and tramways is 522 miles. Comparing that amount with the total mileage in the country, it seems improbable that there will be much further extension of railways in Ireland for some years to come.

Besides the lines above enumerated, there has not been much done for the last few years in railway extension, with one great exception—namely, the Dublin Junction Railway. By this railway the Dublin and Kingstown line is extended through Westland-row to the terminus of the Great Northern Railway at Amiens-street, crossing the Liffey just below Butt Bridge. The line crosses Westland-row and Brunswick-street, and, with but little curvature, reaches the Liffey, which it crosses by a lattice viaduct just above the Custom House. After traversing Beresford-place, Talbot-street, and Amiens-street, the line joins the Great Northern Railway at a point a few yards north of Amiens-street Terminus. By means of this extension, Kingstown is brought into continuous railway communication with the Midland Great Western and the Great Southern and Western Railways, through their junction with the Great Northern Railway.

I trust that the engineers of the Dublin Junction Railway will give us, at some future time, a full description of its construction. There are several fine bridges, especially those crossing Westland-row, Brunswick-street, the Liffey, Talbot-street, and Amiens-street, of which a detailed account would be of much interest. The principle of continuous girders has been adopted for some of those bridges, and at Westland-row the engineer who designed that bridge has overcome the difficulty of giving headroom under the bridge by an ingenious arrangement of counterpoises resting on the extremities of the girders, which are extended for that purpose behind the abutments, thus enabling him to reduce the depth of the main girders. The nett cost of the railway is expected to amount to the money powers of the Act of 1884—namely, £300,000 shares and £100,000 debentures, or to £400,000 in all.

I trust I shall not offend the designers of the Dublin Junction Railway, when I express my great regret that no other point could be selected for crossing the Liffey but one which impedes the view, from O'Connell Bridge, of the finest public building in Dublin. It is a purely sentimental objection, and, in this utilitarian age, such notions are scarcely worth recording.

Sooner or later, we shall probably see a direct communication made between the Great Southern and Western Railway and the Dublin and Kingstown Railway, on the south side of Dublin. Meantime, the new railway secures the direct transit of the Queenstown mails to and from Kingstown, and of the mails from Kingstown to and from the three main lines of railway, to the North, West, and South, without unloading, carting, and reloading, and is of great importance in bridging over a great gap in our railway system.

In later years public attention has been repeatedly drawn to the necessity of the improvement of the fisheries in Ireland, and a great deal has been done to afford shelter round the coast, more especially along the west coast, for small fishing craft. There are now 182 Fishery Harbours round the entire coast, besides the five Royal Harbours of Howth, Dublin, Dunmore, Donaghadee, and Ardglass.

A glance at a map of these Islands will show the great difference between the west coast of Ireland and that of Scotland with its numerous islands, and its lochs, which afford so much shelter and so many favourable sites for harbours from north to south. The fish along the Irish west coast are, as is well known, most abundant. The fishing industry requires to be conducted at long distances from shore, and it is impossible for small craft to venture out to the banks and principal feeding-grounds with safety. I believe I do not exaggerate when I state that the majority of the present piers on the West coast are inaccessible to vessels at low water. For example, the pier of Seafield, on the coast of Clare, is not alone used as a refuge for fishing-boats—it is also the chief station, for many miles of coast, for the transport of kelp to Glasgow. The kelp industry is, outside farming, the staple industry of that coast, and, without it, a substantial part of the population would find existence almost impossible. Brigs of from 40 to 60 tons come to Seafield, sometimes direct, sometimes from Kilrush, on their way to Glasgow. This summer, I have more than once seen these vessels, having failed to reach the pier at high water, obliged to lie in a heavy sea under Mutton Island, waiting for the next tide; and on one occasion, in the middle of August, one of these brigs had to turn back and seek for shelter in some other port. I am informed, on very competent authority, that a fully-laden brig could not navigate the channel leading from Seafield, except at high water of spring tides. This instance may be unusual, but it shows, at least, the loss sustained in one district by the want of a good harbour, the amount of seaweed burnt for kelp depending chiefly on the means and expectation of transport.

The Second Report of the Commission on Irish Public Works (1889) mentions that the administration of the Sea Fisheries Act of 1883, encouraged the construction of these small harbours and piers, on the principle that the scattered fishing population of the West coast required numerous shelters, and that it was more preferable to construct them than to build a few large harbours. One of the reasons assigned was, that large harbours would be unsuitable to the boats and corrachs now in use. If that principle is adopted, it will be impossible ever to improve the fishing industry. Railway communication was, until now, very defective between the West and East coasts; now the railways, completed or in course of construction, to Baltimore, Schull, Kenmare, Valentia, Clifden, Achill Sound, Killala, and Killybegs, connect the greater part of the West coast with the main lines; and with such improved means of transit, the next step to be taken should be the construction of harbours capable of affording shelter, at every state of the tide, for fishing and other vessels of moderate tonnage, but large enough to venture into the open sea. It is hopeless to expect that boats will be built, until there is adequate shelter provided for them; and unless steps are taken without delay to provide that shelter, our fisheries will decay, the habit of managing boats will die out from amongst the inhabitants of our coasts; and an industry which is not only productive, but which encourages, wherever it exists, the growth of an independent and hardy population, will gradually disappear.

I now come to a class of Public Works which has been somewhat neglected in Ireland for many years; it is that of Inland Navigation. The sudden and prodigious growth of railways, which commenced in Ireland sixty years ago, struck a blow to

canal traffic, from which it can never completely recover. Until comparatively recent years, even in England, there was a universal tendency to despise a kind of transport which was slow, when compared to the speed attained on railways. Now, the trading public in England is becoming more and more alive to the importance of the older system of transport, and a considerable movement has commenced, partly for the purpose of improving the Inland Navigation itself, partly to check the natural tendency to monopoly on the part of the great railway companies, of the entire traffic of the country through which they run.

The Returns of the Board of Trade show that, in England and Wales, 48 canals and navigations belong to railway companies, of a total length of 1,024 miles; while the canals and navigations not belonging to railway companies, have a length of 2,025 miles. The railway companies thus own one-third of the inland waterways of England and Wales.

In Ireland, the Royal Canal alone belongs to a railway company—the Midland Great Western—its length being about 97 miles; while the remainder of the Inland Navigation has a total length of about 550 miles. So that the control of navigation by railways, which in England to a large extent deprives traders of the advantages of employing independent canals as alternative routes, and of imposing a consequent check on rates of transport, does not exist to any appreciable degree in Ireland.

The vast traffic in England renders such a check of great importance. There is no need there to encourage industries—they are already established in every part of the country, and of every kind. The present efforts made to improve and extend Inland Navigation, are mainly due to the necessity of transporting the enormous produce of manufactures and agriculture to the coasts and to the centres of population, more cheaply than is accomplished by railways, so as to prevent high prices, and to diminish foreign competition. In Ireland, we have no very great traffic on our railways; but rates of transport are high in many parts of the country, and our canals and rivers, if kept in proper order and carefully worked, ought to give great assistance in affording cheap carriage of goods to and from the interior of the country, which would materially benefit trade and manufactures. It is not a question as in England, of the construction or the enlargement of canals, or of such great works as the Manchester Ship Canal. What may, in my opinion, be fairly considered, is the advantage to be gained by the maintenance and, in some instances, by the improvement of the existing canals and other navigations, constructed at vast expenses, and now, in some instances, threatened with extinction.

The late Mr. Mullins, in his very complete sketch of the "History of Civil Engineering in Ireland," read before this Institution in 1859, gave a full account of our system of Inland Navigation. There are in all sixteen Navigations. I shall confine my remarks chiefly to the following:—The Shannon; Grand Canal; Royal Canal; Lagan; Ulster Canal; Ballinamore Canal; Newry; Barrow.

The main features of Irish Navigation are as follows:—

The Shannon is navigable from Limerick to Lough Allen, and is connected with Dublin by the Grand and Royal Canals; with Lough Erne by the Ballinamore Canal, and with Lough Neagh by the Ballinamore and Ulster Canals—these two canals forming a continuous navigation intended to connect Lough Neagh with Lough Erne, as well as with the Shannon. From Lough Neagh, the Lagan Navigation leads to Belfast, and that of the Lower Bann to Coleraine. This system (exclusive of the Grand and Royal Canals) is known as the Limerick, Belfast, and Coleraine Navigation.

The Newry Navigation also joins Lough Neagh, connecting it with Carlingford Lough.

The Grand Canal connects Dublin with

the Shannon, at Shannon Harbour, and, crossing it, leads to Ballinasloe. Its southern branch extends to Athy, where it joins the Barrow Navigation, which extends to Waterford. The most important of its minor branches are those of Naas, Miltown (County Kildare), Kilbeggan, and Mountmellick.

The Royal Canal also connects Dublin with the Shannon at Cloondara, some forty miles higher up the river than Shannon Harbour. It runs parallel to the Grand Canal for nearly thirty miles from Dublin, and only a few miles distant from it. It then diverges from the Grand Canal until it joins the Shannon. The navigation of the Royal Canal has been allowed to languish, and although the Midland Great Western Railway Company (the owners of the canal) own five steamers (of which two carry cargoes) and twelve barges, these vessels have not been employed for several years. The traffic is carried on by about a dozen hack boats, and reached last year 32,000 tons. The Railway Company purchased the canal for £298,000, and are bound to maintain the navigation; and, further, the tolls require the sanction of the Lord Lieutenant. The original cost of construction of the Royal Canal was £1,142,200.

The total length of these navigations is about 650 miles, and the total traffic exceeds 500,000 tons, not including the Newry navigation, which has not been published, but which must be considerable, from the tonnage of the vessels which use it. The total nett revenue of all amounts to about £20,000. This revenue is no doubt small, as a commercial undertaking; but, viewing canals simply as means of communication, like the roads through a country, it is their convenience for traffic which should be chiefly considered, and protected by the State, if private enterprise is unable to undertake the task.

As the chief navigations may be said to be ruled by the Shannon and the Grand Canal, the size of the boats employed may be taken at the dimensions employed on those two navigations. The Grand Canal has a slightly inferior draught to that of the Shannon, and the dimensions of their boats are: length, 60 ft.; width, 13 ft. 6 in.; draught, 4 ft. 6 in. Such boats can carry from 30 tons to 40 tons, which is about the average on the Grand Canal. The width of the locks on the Ulster Canal were unfortunately altered from the original design, and only admit boats 11 ft. in width, and on the Barrow the draught is but 3 ft. 8 in. These variations in size are common to many of the English canals as well as to ours, and do not offer an insuperable obstacle to navigation, as smaller boats could be employed for the through navigation.

The Royal Canal has a few narrow boats constructed to pass two at a time through the locks. And I may here remark that, in the English Midland Counties and in part of Wales, I had often occasion to notice, while surveying lines of railway in those districts, how easily and rapidly the work of traction and of passing the locks was accomplished by the narrow boats so much in use, when compared to the labour of advancing the large and somewhat unwieldy boats generally used both here and in England. On some canals I have seen the entire work of passing the locks carried out by the boatmen, without any locksmen in attendance.

Some navigations are worked at a loss; of these the Ulster Canal is one. A sufficient reason will be found in the fact that the Ulster Canal was projected as a connection between Lough Neagh, Lough Erne, and the Shannon through the Ballinamore Canal, and that the Ballinamore Canal was never put in proper working order; so that the Ulster Canal has never served, as was intended, as a link of a through navigation, and can only be used for local traffic. . . .

The great manufacturing centres of Ireland are almost all in the North; and it seems not improbable that, if the waterway was reopened from Belfast, Coleraine, and

Nowry to the Shannon, a considerable portion of the traffic from the North to the South and West of Ireland would find its way by that route. Besides, the connection of Lough Erne and the important town of Enniskillen with the Shannon and Belfast would be also open. There are already steamers on Lough Erne plying between Enniskillen and Knockinny, so that there would be at once an inducement to employ the Ballinamore Canal from that direction.

The First Report of the Commission on Irish Public Works, (1887) recommends that the navigation of the Shannon above Athlone should be abandoned, the lock-gates removed, and the locks used for flood discharge. Thus, on both sides it is proposed to destroy this through navigation, which was constructed at vast expense. And, in face of the evidence that the Ballinamore Canal was never so completed as to render navigation practicable, and to give the system a fair trial, the Commissioners of 1882 lay down that the prospects of through navigation are so small that they should be disregarded, and the different portions of the system should stand or fall on their own merits.

The Reports of the Commissions of 1882 and 1887 both recommend the abandonment of the Lower Bann Navigation, which would cut off the navigation between Lough Neagh and the sea, by its natural channel, only leaving the Lagan Canal as a navigable route. The original cost of the Lower Bann Navigation was £264,000. It is satisfactory to know that, at least for the present, the destruction of that navigation is postponed, owing to the opposition of the Grand Jury of Co. Londonderry.

On reading the Reports of these Commissions, and bearing in mind the subsequent Drainage Bills of 1888 for the Rivers Shannon, Bann, and Barrow, I cannot but think that the chief consideration in view was less the Navigation than the Drainage of Ireland. And this will appear but natural, when it is remembered that in Parliament little or nothing has been heard of Navigation, although Drainage has been the subject of many a debate. Without under-estimating the importance of drainage for the surrounding country, navigation should not be made altogether subordinate to it; and it is by no means proved that the drainage along the Rivers Shannon and Bann require that the navigation should be interfered with.

It is not yet too late to prevent the destruction of these canals, on which such large sums of money have been spent in the past. To the whole public in Ireland, their navigations ought to be a subject of interest; and there are many engineers amongst us who must be thoroughly acquainted with those canals, now in danger of coming to an end, and who could give their opinion upon the probable future traffic, if put in working order. The traders and other residents of the chief towns of the north and west would be, above all, the best judges of what would be of advantage to themselves; and their evidence as to the closing or improvement of the navigation in question should be patiently gathered and carefully considered before passing Acts in haste, which would have for their effect to close these navigations for ever.

Since writing this Address, an article has appeared in the *Engineer* of December 25th, 1891, upon "Navigable Rivers and Canals in England," from which it will be seen that three reports have been lately published, made to the Board of Trade, under section 41 of the Railways and Canal Traffic Act, on "The River Ouse Navigation," "The Kennet and Avon Canal Navigation," and "The London and Hampshire Canal,"—the first by Major Marindin, R.E.; the two last by Colonel Rich, R.E. These reports are all of interest, if only to shew the state of dilapidation which has been allowed to take place on the canals, and the growing importance of waterways which has given rise to their inspection. The Kennet and Avon Canal connects London with Bristol by the Kennet, an affluent of the Thames; and by the Avon

from Bath to Bristol. It is a peculiarly striking instance of the interest felt in water transit, for the canal is in direct competition with the Great Western Railway. That railway runs along the canal, which was purchased by the Great Western Railway Company in 1852 for a yearly payment of 6s. a share; the traders on the canal have now applied for the enquiry, asking to have the canal cleansed, the full depth restored, and even to be allowed to employ steam haulage. Thus the argument used against the Lower Bann Navigation—namely, that there are railways running along its course—does not appear to have influenced the inspector in this case. He advises the removal of the accumulated mud in the canal and reservoirs, but does not recommend the larger outlay required by the use of steam haulage, and only suggests a private arrangement between the railway company and the traders.

The Grand Canal Company appears to have at last become alive to the possibility of competing, to a certain extent, with railways; and along their lines, more especially within thirty or forty miles of Dublin, the traders in towns near the canal seem disposed to utilise navigation more than heretofore. A traffic which has reached from 800 to 1,000 tons daily gives a fair promise for the future, and encourages the company to extend the improvements they have already commenced.

A comparison of the tolls charged on the Continent with those of England and of Ireland, and the great increase in traffic on the waterways of Germany and France, where tolls are low and no expense is spared on improvements, would tend to show that our canal companies would improve their traffic if they could see their way to diminish their rates of transport of goods, so as to induce inland traders to send their merchandise by water.

I fear that I have unduly extended my remarks on Irish Inland Navigation. I have gone into the subject somewhat fully, in the hope that, through the influence of the members of this Institution, something may be accomplished towards saving our fine system of canals from injury—some of them from ruin—by averting hasty legislation; and the time appears favourable, now that the Irish railway system has been so greatly extended, and when the engineering energy of the country is likely to be devoted to other branches of public works.

EARLY COLONISTS OF IRELAND.

(Continued from page 218, vol. xxxiii.)

WHAT has been already narrated, is only a brief abstract of the generally received accounts, as furnished by our historians, and which regard these various colonists, preceding the arrival of the more celebrated Milesians in this island. The first inhabitants have but a very mythic claim on our remembrance; nor do our ancestors seem to have honoured them with that distinctive rank or respect, accorded to the Milesian septs, from whom the Irish genealogies are chiefly drawn. The Milesians are traditionally held to have been descended from Japheth, the son of Noah, and, accordingly, some of the early Christian writers, following the scriptural record, have traced the pedigrees of the leading chiefs and heads of distinguished families back to Adam, the father of the human race. Among the sons of Japheth, the Book of Genesis names Magog in the second place,¹ but no further mention is there made of him or of his posterity. However, our Irish historians have not failed to give him three sons,² whose names are Baath, Jobhath, and Fathocta. Besides,

ancient traditions have it, that from Magog descended the Scythians and the Goths.³

We are informed, by John Capgrave, who dates the creation of the world and the fall of man at 4004 years before the birth of Christ, that the kingdom of the people of Scythia⁴ began Anno Mundi 2895. Theirs was a land, extending on the east from Ynde or India, while on the north side it was bounded by the great fens that lay betwixt the River Danube and the Great Sea unto the end of Germany. One Thanaus is called its first king.

From Baath it is stated one Feniusa Farsa descended, and he became king of Scythia, the inhabitants of which country are related to have been warlike and to have attained a high degree of civilisation in ancient times. Again, we are told, that he had a son called Niul, who had no part of the government in that country, but who was required by his father to leave it, with a numerous company, and to go in quest of lands more remote.⁵ From the country they had left, those adventurers were called Scythi, derived from Scuit, whence arose the designation of Scots, if we are to believe some accounts. They are said to have settled in or near Egypt. This narrative in a great measure seems to accord with that contained in the Irish version of Nennius,⁶ that a certain nobleman became an exile in Egypt, after he had been banished out of the kingdom of Scythia, and about the time before the children of Israel had passed through the Red Sea, when Forann or Pharaoh Cingeris, with his host, was drowned. The noble in question was married to Scota, daughter of the king last mentioned; and after his death, that portion of the army, which escaped without being drowned, banished the noble from their country. However, Niul and Scota had a son, known as Gadelas, and from him the people called Gadelians are said to have been named.⁷ Moreover, Gadelas is said to have formulated the Irish language, and therefore its denomination of Gaidelach was derived, because it had been constructed from all tongues then known.⁸

It seems generally to have been understood, that Gadelas remained in Egypt during his lifetime, and that he had a son called Easru, who also lived and died with him in that country. The latter had a son named Sru, while against him was turned the jealousy and anger of Pharaoh an Tuir, successor to Pharaoh Cingeris, who had been drowned in the Red Sea. Sru was obliged to fly from that country the Gadelians had occupied, while under his leadership it was only natural they should seek refuge in the land of their forefathers. However, when they landed in the Island of Crete, their chieftain Sru died there, and he was suc-

³ Thus writes John Capgrave, who flourished in the fourteenth and fifteenth centuries, in his "Chronicle of England":—"Magog; of him cam thei of Scythia, and eke the Gothis, &c., p. 18. Edition of the Rev. Francis Charles Hingeston, B.A., London, 1858, 8vo.

⁴ He thus describes Scythia:—"It had mech voide folk; therefor were here feldis bareyn for the most part. Summe of hem were thinen; many leved be hunting, etyng blod and raw flesch, both of beest and of man. A rich lond men sai it is—but mech thereof is inhabitable—for gold and gemmis be there in habundance. An for the plente of gries men dare not goo there. These stones be there in habundance,—smaragdus, cristalls, and ciancus. He hath eke real fiodis: Asore is on; anothir hite Fasiden; the thirde Araxen."—*Ibid.*, pp. 21, 23.

⁵ See the account in Rev. Jeffery Keating's "History of Ireland," part i.

⁶ Edited by Rev. Dr. James Henthorn Todd and by the Hon. Algernon Herbert, pp. 54, 55.

⁷ Giraldus Cambrensis states, that the Irish of his day, in the twelfth century, and we may presume long before it, dated their origin from Gadelas, and from Scota, the daughter of Pharaoh, while he adds "Gaideli et Scoti, sicut ut nati sunt, sic et nominati."—"Topographia Hibernica," Dist. iii., cap. vii., p. 147. Giraldi Cambrensis, "Opera," vol. v. Edited by James F. Dimock, M.A.

¹ See chap. x., 2.

² Such is the statement, as drawn from the Leabhar Dhiroma Sinechta, and inserted also in the Book of the Invasions of Ireland.

ceeded in the government by Eihher or Heber Scot, his son. At the head of those fugitives, he sailed with them from Crete, and he brought them safely to Scythia.⁹

Here it is said they received no friendly welcome; but, on the contrary, the people in occupation considered them to be intruders, and their jealousy was aroused, because they feared lest the newly-arrived immigrants might lay claim to share in the government of that country. For seven years wars are stated to have been waged between both divisions;¹⁰ but, the Gadeliens, finding themselves unable to sustain the conflict longer, resolved to leave that land, when under the command of Adnoin and Heber, two sons of Tait, descended from Heber Scot, they fled with all speed into the territories of the Amazons. There they dwelt for a whole year, when they set sail in three ships and in quest of other lands. We are told, that under the direction of six captains, three score persons embarked in each ship, every third person having a wife, and that they sailed westwards until they came to a narrow sea that flows into the Northern Ocean.¹¹

One account has it, that when they had been expelled from Egypt, the Scythians went into Africa, to the altars of the Philistines¹²—apparently an Egyptian tribe—and to the wells of Salmara. Thence their journey was extended between the Ruiseagda¹³ and Mount Iasdaire,¹⁴ beyond the River Mbalb.¹⁵ They also sailed through the Mediterranean Sea¹⁶ to the Pillars of Hercules.¹⁷

After various migrations, these adventurers are said to have arrived in Spain. Yet, there again they were destined to encounter opposition. However, their valour prevailed in a contest with the inhabitants of that country. Having won for themselves a footing in Spain, under the leadership of Breogan, they are said to have founded the City of Brigantium, near Corunna, in Galicia.¹⁸

From another source we learn,¹⁹ that some of the early Irish colonists came from those Asiatic countries, where the Grecian language, worship, and customs had been established. Thence they sailed for Greece, and taking with them from Upper Thrace some of the Lacedemonians and other Grecians, they passed through the Hellespont, the Cyclades, and other islands of the Mediterranean, and after undergoing various adventures, they were cast out on the great Western Ocean through the Pillars of Hercules. Afterwards, a great tempest drove them to a distant place called Tyle.

⁸ "Gaidelus iste, ut alunt, Hibernicam linguam composuit. Quæ et Gaidelach dicitur, quasi ex omnibus linguis collecta."—*Ibid.*

⁹ See Rev. Jeffery Keating's "General History of Ireland," part 1.

¹⁰ Such is the account as given in the Irish poem, ascribed to Giolla Caomhán, and intitled, "Saobhál glár oiríob Saorbhíll."

¹¹ See Rev. Jeffery Keating's "History of Ireland," part 1.

¹² They are supposed to have had possession of the land of Chanaan—afterwards known as Palestine—and before the Israelites had migrated thither.

¹³ In a Latin version of Nennius we read, "ad Rusicadam."

¹⁴ The Irish version has it "Slab Iarbaire," while a Latin copy reads "Montes Azariae," while some copies have "Montes Syriæ." Gale's edition of Nennius reads Ararat.

¹⁵ The Latin version is "per flumen Malvam."

¹⁶ In Irish "See muinte," meaning the "sea-path," while the Latin reads "transierunt per meritima."

¹⁷ Such is the statement contained in the Irish version of Nennius.

¹⁸ See Lady Ferguson's "Story of the Irish before the Conquest," chap. i, p. 16. Second edition, Dublin, Sealy, Briers, and Walker, 1890, 8vo.

¹⁹ Thus an anonymous foreign writer—who seems to have studied closely the existing Irish traditions and history as understood in the eleventh century—has given us an account of migrations from Asiatic Greece until the adventurers finally arrived in Ireland, but without any personal mention of their names. See Colgan's "Acta Sanctorum Hiberniæ," Martii vi. Vita B. Cadroe, Abb. Valciodorensis, cap. iii., iv., pp. 491, 495.

When the storm abated, they again set sail, and with prospering winds their vessels were wafted to Cruachan feli, off the western coast of Ireland. Nor more do we know regarding these mariners, their period, or their fortunes.

PROPOSED NEW HOUSE, CHISLEHURST.

Our illustration represents the third house designed for the Camden Park Estate, Chislehurst, by Mr. W. I. Chambers, architect; it is in red brick and half timbered work; the timbers will be saturated with Stockholm tar, and spaces filled in with Keene's cement, coloured yellow; all wood-work of doors and windows will be white; the roofs covered with Broseley tiles, the lantern light and all flats covered with copper.

THE PROGRESS OF BELFAST.

DURING the year 1891, the number of separate plans considered by the Improvement Committee was 1,268—an average of about 24 each week. The plans approved authorised the construction of 1,966 buildings and 47 streets, located as follows:—

| | |
|------------------|---------------------------------|
| Co. Antrim side— | 1,436 buildings and 25 streets. |
| Co. Down side— | 720 " 22 " |
| Total .. | 1,966 " 47 " |

The buildings erected in 1891 exceed those of 1890 by 221, or about 9½ per cent., the number each year being higher than in any previous year. Taking the total buildings erected during the last thirty years, the average number per annum has been 1,800; so that 1891 is about 71 per cent. above the average.

The actual numbers of buildings erected, and streets paved, in 1891, are—

| | |
|------------------|---------------------------------|
| Co. Antrim side— | 1,430 buildings and 56 streets. |
| Co. Down side— | 785 " 34 " |
| Total .. | 2,215 " 90 " |

There are now about 53,500 buildings in Belfast, and the valuation of the city is now about two and a-half times what it was in 1862. The average increase for thirty years has been about £14,600 per annum; last year is almost double this amount.

It will be noticed that for the first time the number of buildings erected in a year exceeds the number for which plans were approved. The explanation is, that previous to the new bye-laws coming into force in 1890, plans for large numbers of dwellings were lodged and approved.

From the report of the City Surveyor for the past year, we learn that twenty-two streets have been widened and improved, the owners of adjacent property having given the ground required and the Council having executed the necessary street works.

The Linen Hall has been taken over, and a temporary footway made through to Donegall-square, south.

Under the Main Drainage Act, the works embodied in Contract No. 1, have not as yet been finished, owing to unexpected delay, but it is expected that they will shortly be completed. No. 2, which includes the construction of the high-level intercepting sewer, as far as Divis-street, has been completed during the year. No. 3, which comprises the erection of the Ducruce-street pumping-station, is almost completed, and the engines and boilers are being erected. No. 4, for the construction of the low-level intercepting sewer along Ducruce-street, is almost finished. No. 5, for the storage reservoir, auxiliary pumping-station and accessories, is being proceeded with. No. 6, for the construction of the high-level sewer from Divis-street to University-road, is in progress. Two granite approach walls at the New Albert Bridge on the County Down side of the river, and one on the County Antrim side, have been completed. The New Quay Wall along the River Lagan, between the

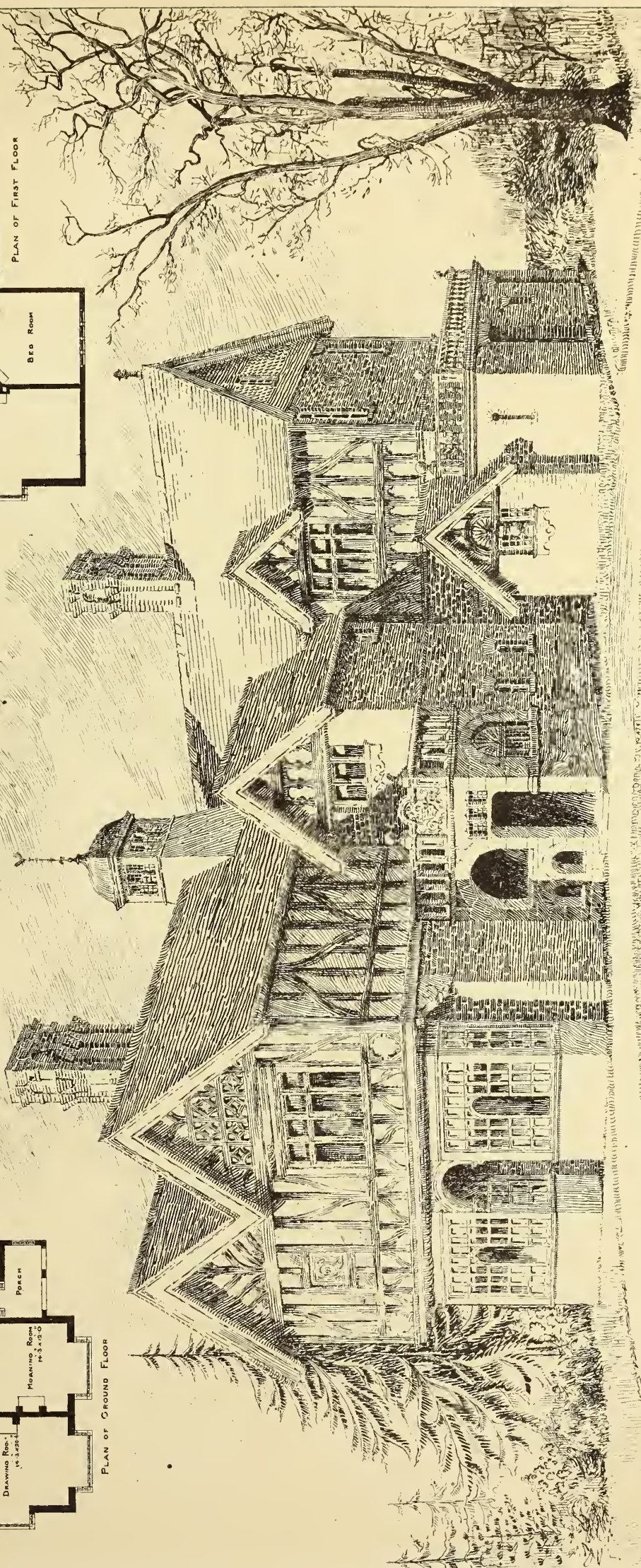
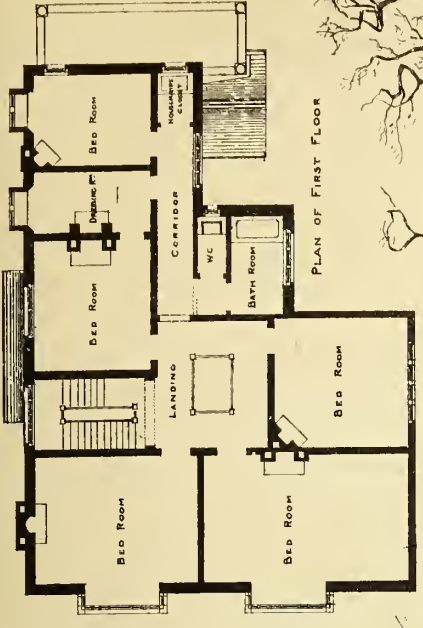
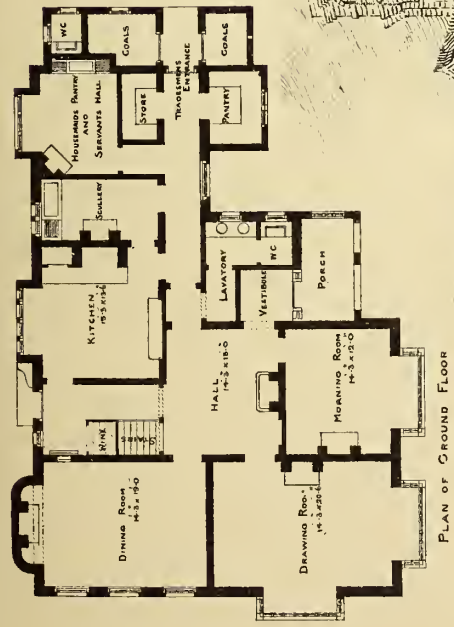
Queen's Bridge and the Great Northern Railway Bridge, has been completed, and the drawings for another section are being prepared. The Victoria Park Bridge is being constructed, and almost ready for the ironwork. Union-street, Mustard-street (now Library-street), and Little Donegall-street have been widened, and the old buildings taken away. Dnnville Park has been opened to the public, and the erection of the ornamental fountain will be proceeded with in the early spring. The Queen's Bridge, Ormeau Baths, Peter's-hill Baths, portions of the Town Hall, Courts, Markets, and Park buildings and railings have been painted. At the Free Public Library, an annexe has been erected, and fittings made for the "Grainger Collection."

THE TRAINING OF ARCHITECTS TO THE PURSUIT OF ARCHITECTURE.*

(Continued from page 4.)

BUT it is not by reading books and studying illustrations that you will learn practical architecture. Reading about things is very different from seeing them; you will learn more by one visit to an actual building than by pages of description. Accustom yourself from the first to regard your books only as guides to teach you what to look for in real buildings, and follow up any course of reading by going to see for yourselves the things you have been reading about. In the same way do not think that by drawing in an architect's office you will ever learn how designs will come out in reality, or even that you will thoroughly understand the meaning of your own drawings. Go, if you can, to the building itself; see for yourself how the details work out; how the different parts are constructed, what difficulties they present, and how the workmen surmount them. I have always recommended my pupils at the end of their term to put themselves for a season under a clerk of works, and help him to set out the work and direct the workmen. I cannot say they always take my advice, but those who have done so have not failed to benefit by the practical knowledge they gained. Remember that your calling, as I said before, is to design for craftsmen, and this you will not do successfully unless you have a practical knowledge of craftsmanship yourself, which is not to be gained from books or in the office, without resort to the building-sheds, the scaffolding, and the workshop. What can be more absurd than to sit all your days indoors designing things which you never see made? You are safe only on the condition of copying accurately what has been done before, because knowing nothing practically of the working of materials, you may, if you quit the strict path of precedent, be using your material improperly, wastefully, and at the same time ineffectively. Take, for instance, the very common error into which architects have fallen in their use of marble. You have been used to stone, and when an opportunity occurs of using marble, you think you have only to go to work in the same way and your work will be as much finer than masonry as marble is finer than stone. You know, indeed, that marble was not treated in this way of old; but you think, perhaps, you can improve on the flat surfaces, the shallow sinkings, and the superficial mouldings of the old men, and do something bolder and better; and so you proceed to work it into the roll of mouldings and deep under-cuttings to which you are accustomed in stone. The result, if you have anything of the artist in you, will disappoint yourself. One has seen too often examples of marble spoiled in this way with extravagant waste of labour, and an effect, after all, inferior to that of stone. They have failed because the architect has misused his material, and this most likely because he has never practically studied the way of

* By Mr. T. Jackson, M.A. Paper read at Architectural Association, on the 11th ult. (Mr. F. T. Baggallay, the President, in the chair.)



PROPOSED NEW HOUSE, CHISLEHURST.

W. I. CAMPBELL, ARCHT.

THE LIBRARY
OF THE
UNIVERSITY OF ILLINOIS

working it. Had he accustomed himself to watch carvers and masons working marble laboriously with drill and chisel, he would have seen why marble was always treated by the masters of old with shallow sinkings and square returns, without under-cutting, and he would have learned that the plain surface treatment he despised was needed to give due effect to the colour and texture of the material. He might even have risen to the notion that Classic architecture itself, which is largely a marble style, derived its peculiar details from the convenience of the masons who had to work this stubborn material.

Take, again, the case of wrought-iron work. You know from old examples and from drawings, that ironwork can be twisted and hammered into certain forms, and welded together while hot; but you have never seen a weld made, or a scroll beat or hammered into shape. As long as you keep to designs that have been done already you may escape disaster, but if you have the right stuff in you that makes an artist, you will soon grow tired of that, and want to design something original. You make your design, and write your instructions with a light heart,—“Weld these together,”—and so on. As a matter of fact, perhaps the smith cannot weld them, for reasons unknown to you, but he puts the work together in some other way, as like your drawings as he can, and very likely you are satisfied. But the work nevertheless is a sham: you designed it for welding, and the smith has made it look like welding, when it is really nothing of the kind. Now had you gone and seen him with your drawing, and watched him hammering the iron, you would have understood his difficulty at once, and if you were really an artist you would there and then have taken out your pencil and altered your design to suit and express the methods to which the smith was obliged to have recourse.

I might go on with examples from all the other trades,—how, for instance, the work of carpenters and joiners is often doubled uselessly, and the expense also doubled uselessly, by framing being contrived so as to force the craftsman to do by chisel what with a little management you might just as well have enabled him to do by plane. This would be obvious to you at once if you were familiar with the workshop and saw how tools were used, and how labour might be economised. But time forbids me to dwell longer on this subject; you will easily extend to all branches of construction and design the lesson I have tried to point in the foregoing instances. The sum of the matter is that there is no such thing as successful design with the legitimate use of materials; in this lies the secret of good and economical construction, and of expressive design. Without it you may sit all day in your office inventing fresh designs, but they will one and all be worthless. And the knowledge necessary to enable you to design sensibly, so as to make the best use of the means at your command, is not to be had from books, but from actual study of good work, both ancient and modern, and from actual contact with handicraft and handicraftsmen. I trust, therefore, that your educational scheme, which is now in process of elaboration, will include some mode of bringing your students into the workshop among the workmen, not of one or two only, but of all the trades in their turn which it concerns an architect to deal with in the course of his practice. I believe there would be no difficulty in this, so far as the craftsmen are concerned. Nothing would do more to help their work than to have a body of architects to deal with in the future who knew something practically of the trades for which they made designs and specifications, instead of men who, for want of knowledge, frequently set them unnecessary tasks and lay upon them unprofitable labour. I would even go further, and say that it would be extremely desirable that every architect should actually learn some handicraft, so as to understand its difficulties and its possibilities; and, by

learning these in the case of one craft, he would be better able to appreciate them in the case of the others. But, even if you stop short at this, you may at least approach yourselves to the handicrafts in the way I have suggested, by shutting your books and flying to the workshop, and so learning how to design in a way that gives the workman no unnecessary trouble, makes the most economical and reasonable use of the materials, and satisfies the canon of art which requires that design shall be based upon construction, and be the outward expression of it.

This brings us back to what I said some time ago, that the main thing an architect had to learn was to *construct well with an artistic motive*. Let us compare this definition with that lately put forth from an authoritative source, and see how they agree. The President of the Royal Institute of British Architects, in his opening address on November 2, defines the ideal architect as “the man who unites the qualities of an artist, a constructor, and a man of business.” Against this, so far as it goes, I have not a word to say. The inseparable connection,—I do not say between architecture and construction, because architecture includes construction,—but between design and construction is the text on which I have been enlarging to-night; If I have said nothing yet about business qualifications, it is not because I under-value their necessity, but because I have been talking solely of architecture; and business qualifications, though as necessary to an architect as they are to all who mix in the affairs of life, are not architecture, and moreover, cannot to any very great extent be taught.

But the President goes on to say, “It is given to few to excel in all [these three qualifications], though there are many who, possessing a general knowledge of each, are proficient in one or the other. And is one who is distinguished by artistic taste to regard with indifference, or a species of contempt others who may be less artists and more scientists? Or is one whose genius is construction to look askance at others who are more purely artists?” He does not go on to put a similar question with regard to those whose genius is more for business than for art or construction, whose claims to be considered architects he apparently did not find defensible.

Now here I venture, with all respect to the President, to think he is wrong. As Mr. Norman Shaw points out in his letter to the *Times*, “He divides those who practice architecture into three classes: first those whose proclivities are artistic; second, those whose genius is constructive; and, third, those who, *par excellence*, are men of business. We also make this distinction, and are fully alive to the necessity of good construction; but we think that the men forming the two last divisions are, *as such*, not architects at all. The scientific constructor already exists in the engineer, the business man in the surveyor and commission agent.”

Now, if it is possible, to take an engineer or a surveyor, and by endowing him, to use the President's words, with “a general knowledge” of art, thereby to make him an architect, then good-bye to architecture as an art. I have in that case been merely wasting words to-night in trying to explain that architecture is not the result of adding more or less of art to sweeten the bitterness of construction or enliven the dryness of business, but a ruling motive, which must be present from the very beginning, and inspire and govern the construction itself. This view is totally irreconcilable with the officially-pronounced view of the Institute, that a “general knowledge of art” superadded to sound business habits or skill in construction will suffice to make a man an architect.

This definition occurs in the course of the President's defence of the system of examinations conducted by the Institute, and imposed as tests on all who seek to become members of that body. And, as our subject

to-night is architectural education, it is time to say something on this matter of examination, about which there is, as you know, great difference of opinion, not only between the Institute and outsiders, but even within the Institute itself. Examination is the contribution of the Institute to the cause of architectural education. “We do not teach,” they say, “but we examine.” Their theory is that the necessity of preparing for examination will direct the student in the course of his studies and give him system in his reading. I hope to show you that so far from these examinations being a help to the education of the beginner, they are, in fact, only a hindrance and distraction.

In the first place, they put before him a wrong motive. He learns, not in order to know, but to pass, and he will get no solid good from study pursued with such an object as that. Looking to examination as his goal, he will not, dare not, work in any direction that does not lead that way. He may have a special bias to some particular branch of architecture, and desire for a time to give himself to it exclusively, but he cannot linger; the Examination awaits him and he tears himself away and dilutes his attention to spread it over the whole field of architecture. He may know himself to be ignorant of some other branch of his subject, and wish to work it out thoroughly and master it, but he knows it will not pay with the examiners, and he is forced to content himself with that superficial knowledge which is all he can hope to master in the time and over so large an area of subjects. The system which was promised him for a guide and help proves only a clog to his progress. Let me quote the admirable remarks of Professor Aitchison on this subject:—

“System is an excellent thing, and if it only means the inclusion of what an architect must know, nothing can be said against it. But a man must take care that system does not prevent him learning anything. I have been through examinations, and when I started to prepare myself I spent several days in laying out a systematic course of study, and I endeavoured to follow it, but I found there were subjects that I could not master in the time set down for them. If I had stuck to this systematic system I should have learned no thing; and what I had to do was to learn the subjects and ignore the system.”

But, we are told, the examination has the inestimable advantage of enabling the students to test “the extent and accuracy of their knowledge.” I believe it does nothing of the kind. On the contrary, it enables them to play off their shallow knowledge, or perhaps that of their crammer,—for that worthy has, I hear, already appeared on the scene,—against the wits of the examiners. In order to pass, the candidates must answer a certain number of questions on a wide range of subjects. It is a pure chance what he will be asked, and he loads his mind with a general superficial knowledge,—a kind of mental dust-shot,—which spreads so wide as to be sure of hitting something, though it will not penetrate very deep. This is not the kind of examination that enables the student to test his own knowledge. It is not like the examinations of pupils by the tutors under whom they have been working during the term, the object of which is to ascertain whether the lessons have been properly understood. It is not like the examinations at the Universities of Oxford and Cambridge, where, again, the subjects are clearly defined and have been all taught during the collegiate course by the same men who examine. The Institute examinations are totally different, for though it examines, it does not teach, and has no students.

But the most fatal deception practised upon the innocence of the student is the pretence that it is an examination in architecture at all as an art. It is an examination of what can be learned from books and drawings, but contains no test that the student has ever carried his knowledge afield and tried it in the actualities of life. Accepting for the moment the President of the Insti-

tute's threefold division of architecture into art, construction, and business habits, it is evident that only one of the three can really be brought to the test. You may examine a man in construction, no doubt, that is to say, in construction apart from art, but how are you to examine him in his business qualifications? I acquit the President of including among these the extraneous pursuits which many men follow besides architecture, such as belong to the land surveyor and estate agent, the lawyer, and the speculator in building schemes,—a class of pursuits so foreign to architecture that no man who follows the two can hope to succeed in both. I assume him to mean such a faculty for keeping expenditure within bounds, and insuring that his employer gets his moneysworth, and of controlling the builder and workman with tact and good temper, as is necessary if things are to go smoothly and well. But who is to examine the student in that? In the first place, it is a matter of habit, which can only be acquired by actual experience, which the young architect can only learn as he goes on, for assuredly no one can teach it him; and in the second place it is largely a matter of natural tact and temperament, which may be improved, but cannot be supplied if it is absent.

Still less is it possible to bring his artistic qualifications to the test of examination, if there is any truth in the picture I have tonight attempted to draw of what they should be. You may ask him questions in the history of the art: he may satisfy you as to dates and names, periods and examples, but, as I have already said, he may have all that at his fingers' ends, and yet be incapable of architecture. He may be a good antiquary, and yet remain totally devoid of imagination and sense of beauty, without which he can never be an artist. You will never invent any test which you can safely apply to qualifications of this kind; if you try to exercise it you will infallibly fail to keep out those who are unworthy, and probably shut your door in the face of some heaven-descended genius whose originality you may fail to appreciate.

Observe, I entreat you, that this is not a question of examining for a prize, when you compare one design with others and give the reward to the best. That is easy enough and fair enough, and in its prize fund and scholarships the Institute has a grand opportunity for stimulating and distinguishing art students. But we are now considering a totally different kind of examination,—a qualifying one,—one for excluding or admitting a student primarily to the ranks of the Institute, and, secondarily, to those of the profession. For though the Institute at present disclaims any ambition to make architecture a close profession under their presidency, still it comes to the same thing, for they aspire to sweep us all into their net, and their dream of the final state of architecture is that every architect shall perforce have passed into the Institute through the gates of examination.

The illustrations by which the President tried to defend examination are altogether irrelevant. "Is not life," he seems to say, "one long examination; do not artists submit to examination when they send their pictures to the Academy; does not everyone who is employed practically submit to examination by his employer?" and so on. Now all this is really trailing a red herring across the path. One might as well ask whether it was not by examination that butcher Jones secured my custom instead of butcher Smith. The examination we protest against is a *qualifying* one, one which you must pass in order to get your bread in a certain calling; and it is obvious that this is not the case with the President's illustrations. Painters who are rejected at the Academy are not debarred from selling their works to anyone who will buy them, and there is nothing in my dealing with Jones which prevents Smith from selling his mutton to other people.

I do not say that *in theory* it is absolutely

impossible to construct a system of examination so rigid that every incompetent pretender to architecture shall be excluded. But who is to be trusted to keep the door? How many in a generation would be found worthy to pass it? For instance, if it were tried to-morrow, would all the present members of the Institute he found on the inside of the door, or would a good many be left gnashing their teeth on the outside? Such a system of selection is impossible, and yet anything short of it is a mere imposture and a sham. The majority of candidates are and must be mediocrities, and you will have to admit them with their middling gifts, and to suit your standard to their capacities. If you argue that they will at least be no worse for being examined, I reply that they will certainly be no better, and that at all events it would have been something not to have set your seal on them by way of recommending mediocrity to the public.

However, Examination is now the banner under which the Institute sails, and the next step is to be the extension of this test to the different grades of that society. The President asks why the Fellows are not to enjoy the same blessings as the Associates, and suggests that they too should be required to pass an examination for the higher degree. And so we go on till, if I may be forgiven for trifling with so serious a subject, one may imagine the Presidential chair thrown open to competition in order that its occupant may not be excluded from advantages of examination enjoyed by the inferior members.

I have dwelt at some length on this matter of examinations, because at the beginning of your new educational system it is all-important that your students should make up their minds what they are trying for; and because, if your schools become mere places for training or cramming architectural students for passing examinations, you are, in my humble opinion, going the safe way to reduce them to uselessness, and to alienate the interest of all who look upon the study of art with different eyes. The note of alarm has already been sounded: when the Institute was considering the question of a grant of money to your schools, one speaker proposed that the grant should be given at the rate of so much a head for everyone of your students who passed the Institute examinations. How this was settled I know not, but I do know that the idea that this would be the main motive of your teaching has prevented several architects from aiding you whose advice and experience would have been of infinite service.

Believe me, that if you propose to your students such an end as this, you will be putting before them an unworthy motive, and your schools are predestined to barrenness. On the other hand, tell your students that they come here simply to learn to be architects, without any secondary aim; teach them architecture in all its aspects, constructive and utilitarian, but always in conjunction with good design; make them learn a few things at a time thoroughly rather than many things lightly; insist on their having a reason for what they do, and hold them back from a fresh step till they have mastered the first; bring them as soon as possible into touch with the craftsman, and make them craftsmen themselves if you can; let them learn from things rather than from books enlarging their knowledge by experience of technical methods, which is the readiest way of sowing in their minds the seeds of fresh elements of design; above all, teach them to keep bright by constant use such strains of originality as their nature possesses, and you will make your schools true nurseries of architects; though I think it very likely your students would be plucked in the Institute examination.

When I reflect that it is with you, gentlemen, the younger members of our craft, and with those students whom you are now undertaking to train, that the hope of English architecture lies, it seems impossible to overrate the seriousness of the crisis. Your

new schools may do much to help our art onwards, or they may aid in stifling it under the dull weight of professionalism. I put before you good and evil, artistic life and artistic slumber; it is for you to make your choice.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

A GENERAL meeting of the Institution was held on Wednesday evening, 13th inst., in the new Hall of that body, Dawson-street,

Professor PIGOT, President, in the chair.

The Secretary read the minutes of last meeting and business for the present, after which the President proceeded to read his able and interesting Address, the substance of which we give upon another page.

Mr. Robert Manning, in his usual good spirit, proposed a hearty vote of thanks to their President for his able Address. This received the applause of the members, and was seconded by Mr. W. H. Mills.

The ballot resulted in the election of Mr. Thomas Alexander as member, and Messrs. J. H. Strong and W. Sandell as associates, after which the meeting adjourned.

A LIGHT AND AIR CASE.

(Before Mr. Justice O'Brien and a Special Jury.)

Mr. John Whyte, jeweller, 68 Upper Sackville-street, sought an injunction against Mr. T. J. Brennan, publican, Henry-street, and £500 damages for obstruction of light and air to plaintiff's back windows. The injunction was to compel defendant to remove portion of his premises, which were alleged to be a continuance of the obstruction. It appeared that Mr. Brennan bought the premises for £3,000, and expended as much more in re-building. During the building, plaintiff alleged that Mr. Brennan built the new premises nearer to his back windows and higher than the old premises. Defendant admitted that, during the building, there was some temporary obstruction, for which he lodged £20 in court, and denied all further liability. Mr. M'Laughlin, Q.C., having stated the plaintiff's case, his Lordship said it was a case for a view jury. The jury went to inspect the place, and on their return the foreman announced that they had made up their minds on the case. Having received directions as to points of law, they found for the plaintiff in £30 over and above the sum lodged in court.

NOTES OF WORKS.

The new townhall, Killiney, Co. Dublin, is drawing rapidly towards completion. It is situated in a commanding position in the township, and is being erected from plans by Messrs. T. N. Deane and Son. The contractor is Mr. Henry Pemberton, Ballybrack. Cost about £1,400.

From designs by the same architect, a new glebe-house, with out-offices, &c., are to be erected by the select vestry of the parish of Rathmichael, Co. Dublin. A new memorial hall is also being arranged for. Mr. Henry Pemberton is the builder. Cost about £3,500.

At Kingstown, a fine building is in progress for the Young Men's Christian Association in that township, and it is situated midway in Upper George's-street. The cost is estimated at about £4,000. Mr. W. Kaye Parry, C.E., is the architect, and Mr. Pemberton, the builder.

Schools for the children of the Presbyterian body are being erected at Ballymartin and at Cranfield, both in the County Down.

Additions are to be made to the Clonmel Lunatic Asylum, tenders for the execution of which will be received by the Commissioners for the Control of Lunatic Asylums, up till 4th prox.

THE HISTORY OF
THE CHURCH AND PARISH OF
ST. MICHAEL THE ARCHANGEL,
DUBLIN.

(Continued from page 9.)

THE PAROCHIAL REGISTER.

BAPTISMS.

1801-1825.

1801.

Sept. 7. William, s. of Wm. and Elinor EDMISTON, High-street.

Dec. 20. Mary Ann, dau. of the Rev. Henry and Sarah SAVAGE, curate of St. Michael's.

1802.

Feb. 28. John, s. of William and Frances DUNBAVIN, High-street, chandler.

May 16. Richard, s. of James and Elizabeth LONGMOORE.

July 15. Elinor, dau. of James and Elinor COLLINS, High-street.

1803.

Jan. 6. Susanna, dau. of John and Martha WHITE, Cock-hill.

July 15. Arthur, s. of James and Mary MURPHY.

Dec. 21. Josiah, s. of Richard and Sarah MANLIFF.

1804.

Jan. 31. Frances, dau. of William and Frances DUNBAVIN, High-street.

Feb. 22. Marmion Wilme, s. of Henry and Sarah SAVAGE.

June 3. Sarah, dau. of James and Elizabeth SAUL, High-street.

Nov. 12. Mary, dau. of John and Mary SINNOT, Merchant's-quay, silk merchant.

1805.

April 5. William Tone, s. of William and Frances DUNBAVIN.

April 12. Sammel, s. of Samuel and Johanna GAMBLE, junr., High-street, ticken merchant.

April 21. Debora, dau. of Benjamin and Elinor O'CONNOR.

Aug. 25. Susanna, dau. of James and Elizabeth SAUL, High-street, woollen merchant.

Sept. 8. William, s. of Wm. and Susanna ANDERSON.

1806.

March 23. Henry Bewley, s. of Henry and Sarah SAVAGE.

April 16. James Washington, s. of James and Elinor COLLINS.

June 3. Ann Martha, dau. of Wm. and Frances DUNBAVIN.

Nov. 22. George, s. of Robert and Mary YOUNGER, High-street.

Dec. 21. Mary, dau. of Saml. and Johanna GAMBLE.

1807.

May 24. James, s. of James and Cathrine FITZGERALD, Michael's-lane.

July 19. Lavinia, dau. of Joseph and Mary MAYNE, Merchant's-quay.

Aug. 3. Peter, s. of Wm. and Frances DUNBAVIN.

Aug. 16. Mary, dau. of Thomas and Cathrine REA.

Sept. 22. Samuel, s. of Arthur and Mary DWYER.

Sept. 27. William, s. of Wm. and Mary CRAIG, High-street.

Oct. 4. Emilia, dau. of John and Martha WHITE.

Nov. 20. John Townsend, s. of John and Mary Townsend SINNOT, Merchant's-quay, silk merchant.

1808.

March 2. Harriot, dau. of George and Mary BROWN.

March 27. John, s. of Peter and Mary M'COLLOUGH.

May 11. Sarah, dau. of the Rev. Henry SAVAGE, Curate, and Sarah, his wife.

Dec. 22. William, s. of Joseph and Mary MAYNE, Merchant's-quay, merchant.

1809.

Jan. 16. Dinah, dau. of Wm. and Mary CRAIG, High-street, cloth merchant.

Feb. 3. Martha, dau. of Samuel and Joan GAMBLE, High-street.

Oct. 8. Elizabeth Townsend, dau. of John Townsend and Mary SINNOT.

Oct. 29. James George, s. of John and Elizabeth LONGMOORE.

1810.

Jan. 14. Ann, dau. of William and Mary CRAIG, High-street.

Feb. 11. George, s. of George and Mary BROWN.

Feb. 25. Margret, dau. of James and Cathrine FIZGERALD.

April 1. Robert Henry, s. of John and Mary WILLS.

April 25. Michael, s. of Michael and Honora M'GARRY, Cook-street, brazier.

July 19. Ester, dau. of John and Ester PICTON.

Aug. 23. Ann, dau. of John and Catherine ALLOWAY.

Sept. 18. Mary Ann, dau. of Wm. and Hester WALSH.

Nov. 30. Isaac, s. of William and Mary CRAIG.

1811.

Jan. 3. William Townsend, s. of John Townsend and Mary SINNOT.

April 26. John, s. of Benjamin and Elinor CONNOR.

Aug. 11. Sarah, dau. of Jacob and Jane CALLOWAY, High-street.

Nov. 17. Elizabeth, dau. of Robert and Jane NIXON.

1812.

Feb. 5. Bewley, s. of George and Mariam BROWN.

May 17. William, s. of Nathaniel and Margret HAWS, High-street.

Dec. 6. Robert, s. of John and Cathrine ALLOWAY.

Dec. 27. Dorothy, and Mary Elizabeth, daus. of Nicholas and Elizabeth O'ROURKE, High-street.

1813.

Jan. 10. Henry, s. of Poole and Elizabeth TAYLOR, High-street.

May 22. William, s. of Wm. and Mary CRAIG.

June 20. John, s. of Ambrose and Jane COLLINS.

Nov. 22. Thomas, s. of James and Elizabeth LONGMOORE.

1814.

Jan. 24. Mathew, s. of Edwd. and Margret PARKER.

Jan. 30. Robert, s. of Michael and Honor M'GARRY.

April 12. Wm. Townsend, s. of John Townsend and Mary SINNOT.

May 15. Eliza, dau. of Benjamin and Elinor CONNOR.

May 22. Frances, dau. of James and Ann LALLY, Jones's-court.

Sept. 11. Poole, s. of Poole and Elizabeth TAYLOR, No. 9 High-street.

Nov. 13. Richard, s. of George and Elizabeth BROWN.

Dec. 26. Margret, dau. of John and Cathrine ALLOWAY.

1815.

April 9. George, s. of Michael and Honor M'GARRY, Cook-street.

June 18. Mary, dau. of William and Rebecca THOMPSON, No. 4 Jones's-court.

N.B.—This is the first Baptism in the new church.

July 30. James, s. of Edwd. and Margret GARRETT, 58 High-street.

Nov. 12. Susanna, dau. of Samuel and Joanna GAMBLE.

Nov. 26. Marmion, s. of John and Elizabeth BROWN.

1816.

April 21. Charlotte, dau. of John and Elizabeth ENNIS, High-street.

June 2. Mary, dau. of James and Elinor JOHNSON, High-street.

June 16. Margret, dau. of James and Elizabeth LONGMOORE, Michael's-lane.

Aug. 11. Joseph, s. of Joseph and Ann GAME, Jones's-court.

Aug. 18. George, s. of Michael and Honor M'GARRY, Cook-street.

1817.

Jan. 17. Anne, dau. of Richard and Mary AUSTIN.

Feb. 23. William, s. of John and Ann HAWKINS.

April 1st. Samuel, s. of John and Mary SINNOT, Merchant's-quay, silk merchant.

June 28. Henry, s. of George and Elizabeth BROWN.

Sept. 7. Cathrine, dau. of Richard and Margret RETSON, 13 Michael's-lane.

Nov. 16. Ralph, s. of Wm. and Ann EDWARDS, 9 High-street.

Nov. 16. Rebecca, dau. of Wm. and Rebecca THOMPSON, Jones's-court.

1818.

Jan. 11. Thomas, s. of Michael and Honor M'GARRY.

Feb. 22. Richard, s. of Wm. and Eliza FOSKEY, 58 High-street.

June 14. Jane, dau. of John and Issabella REILLY, a private in His Majesty's 27 Regt. of Foot.

Sept. 6. Ann Mathews, dau. of James and Elizabeth FISHER, Corporal in His Majesty's 14 Light Dragoons.

Sept. 20. Liddy, dau. of Joseph and Ann GAMES.

Nov. 22. Fidelia, dau. of George and Kitty RICHARDSON.

Dec. 23. Alfred, s. of George and Elizabeth BROWN.

1819.

May 30. Charlotte, dau. of Wm. and Esther WALSH.

Aug. 15. Barbara, dau. of Richard and Joan KNIGHT.

1820.

June 25. Thomas, s. of Michael and Honora M'GARRY.

Nov. 12. Margret, dau. of Francis and Bridget FREEBURN, a Private in His Majesty's 39 Regt. of Foot.

1821.

Feb. 25. John, s. of Joseph and Ann GAME.

March 21. Robert Harkness, s. of Rev. Charles M'DONNELL, curate of St. Michael's, and Maria his wife.

May 27. Ann, dau. of John and Rachel REVELL.

Oct. 21. Mary Ann, dau. of George and Eliza DROUGHT, Thomas-street.

Dec. 30. James, s. of Michael and Honor M'GARRY.

1822.

Jan. 6. Hannah, dau. of William and Esther WALSH.

March 31. Mary Ann, dau. of Henry and Mary REVELL.

May 19. John, s. of Thomas and Rose WATERS.

Aug. 11. James, s. of Wm. and Mary BRADCHORD, No. 9 High-street.

Sept. 8. Francis, s. of James and Mary HOGAN.

Sept. 15. Mary Ann, dau. of John and Ann HAWKINS, book-binder, 44 Cook-street.

Sept. 22. Elvira, dau. of Rev. Charles M'DONNELL, curate of St. Michael's, and Maria his wife.

1823.

Jan. 19. Robert, s. of John and Eliza M'KENNA.

Feb. 23. Ann, dau. of John and Rachel REVELL.

April 27. Edward, s. of Edward and Ann Maria COLECLOUGH, Little-Britain-street.

June 22. Brianna, dau. of Archbold and Elizabeth NICHOLSON.

Aug. 3. John, s. of Charles and Rachel HALL.

Aug. 17. Rachel, dau. of Thomas and Isabella SCOTT.

Sept. 21. Henry, s. of Michael and Honor M'GARRY.

Sept. 22. Susanna Maria, dau. of the Rev. Charles and Maria M'DONNELL.

Dec. 26. Margaret, dau. Wm. and Mary BRADCHORD.

1824.

May 9. George William, s. of Patrick and Eliza CROWE.

July 11. Eliza, dau. of John and Eliza JOHNSTON.

Dec. 30. Edward, s. of Edward BEEWER, Private in the 9th Lancers, and Lucinda, his wife.

1825.

Jan. 19. Elizabeth, dau. of Thos. and Elizabeth SCOTT.

Feb. 20. Rachel, dau. of John and Rachel REVELL.

March 4. Maria, dau. of the Rev. Charles and Maria M'DONNELL.

March 13. George, s. of Wm. and Alicia BARLOW.
 June 19. Elizabeth, dau. of George and Barthania BENTLEY, New-street.
 Sept. 4. Barbara, dau. of Wm. and Esther WALSH.
 Sept. 25. Elinor, dau. of Benjamin and Jane HAYES, No. 90 Cook-street.
 Nov. 27. Thos., s. of Barthw. and Mary HATTON.

A list of the persons from St. Michael's parish who were confirmed at St. Werburgh's on Friday, 13 April, 1824:—

Samuel Gamble, aged 19, 64 High-street.
 Mary Gamble, „ 17, Do.
 Martha Gamble, „ 15, Do.
 William Furnace, „ 17, 4 High-street.
 Ann Alloway, „ 14, 62 High-street.
 Mary Ann Walsh, „ 14, 6 High-street.
 George Patterson, „ 15, 6 High-street.
 John Peters, „ 15, Parochial School.

MARRIAGES.

1801-1825.

1802.

Nov. 21. John DAVIS, of Borr-court, and Cathrine KELLY, of Charlotte-street, by pub. of banns.

1803.

July 18. Robert DAVID, clk. of the parish of St. Michael, and Margaret BARBER, widow, by Rev. Mr. Watere.

1804.

May 18. Robert BOYDE, and Mary RICHEY, by licence.

Augt. 18. John Burton TWADLE and Elizabeth ROGERS, pub. of banns.

Sept. 3. Michael Edward COATES and Miss Jane KATHRINS, of High-street, by licence from Consistorial Court.

1809.

June 4. William PARKES and Elinor SCOTT, by pub. of banns.

June 29. John LANGSTAFF and Ann WALSH LEE, of High-street, & licence from Consistorial Court.

Sept. 23. Henry BISHOP, Esq., of Wales, Summersetsbire, England, and Jane TROCHE, widow, by virtue of Consistorial licence.

Dec. 9. Mr. John CANTWELL and Miss Emily LEET, of Merchants'-quay, Consistorial licence.

1810.

April 29. Thomas NEWLAND and Elinor O'HARA, pub. of banns.

Oct. 6. Josiah JACKSON, of Ross-lane, gentleman, and Jane DILLON, of High-street, by virtue of Consistorial licence.

Dec. 16. John FOSTER and Elizabeth PHILLIPS, by pub. of banns.

Dec. 30. Francis HUDDLESTON, Esq., late Captain in the 45th Regt. of Foot, and Hannah PIKE, spinster, by Consistorial licence.

1812.

Jan. 2. Edward M'BRETON and Susanna EDMISTON, of High-street, by Consistorial licence.

March 22. Poole TAYLOR and Elizabeth MARTIN, by pub. of banns.

1813.

Sept. 16. The Rev. Robert WALSH and Miss Ann BAILIE, both of Finglass, by virtue of Consistorial licence.

Sept. 18. Mr. George BROWNE, of Fownes-street, and Miss Elizabeth STOCK, by Consistorial licence.

1815.

July 9. James JUDGE and Ann KEOGH, by pub. of banns.

Dec. 17. John HAWKINS and Ann BOLAND, pub. of banns.

1816.

Feb. 27. Mr. Abraham DONROACHE and Margaret GAMBLE, of High-street, by virtue of Consistorial licence.

July 15. John Henry BROWNE, of Bray, Co. Wicklow, gentleman, and Elizabeth DARLING, of Monastry, also of the Co. Wicklow, by Consistorial licence.

Augt. 13. Mr. William GRIERSON and Miss Mary Ann WARREN, spinster, of Camden-street, by Consistorial licence.

1817.

April 13. Robert KNAGGS, of Ushers-quay, peace officer, and Elinor BEATES, spinster, Skinner-row, by virtue of Consistorial licence.

June 22. John SCOTT and Margaret NOWLAN, pub. of banns.

Augt. 1. Mr. James PRICE and Martha Charlotte PIDGEON, spinster, by virtue of Consistorial licence.

Augt. 16. Mr. James MOORE, of Abbey-street, chandler, and Elenor DUNBAVIN, of High-street, spinster, by licence.

1820.

Feb. 3. William Wengrove MANNING, of Rathdrum, Co. Wicklow, Gentleman, and Eliza SAUL, spinster, & licence by the Rev. Richard Roe.

1821.

Feb. 11. Samuel HOLDEN, of High-street, tallow chandler, and Cathrine EDMISTON, spinster, by Consistorial licence.

May 15. William RYAN, of Cashel, Co. Tipperary, Esq., Lieutenant in the 63rd Regt., and Harriot LEET, of Merchants'-quay, by Consistorial licence.

Oct. 16. Samuel STEWART and Mary M'DONNELL, by pub. of banns.

1822.

Jan. 20. George MAPE and Jane SHANNON, by pub. of banns.

April 24. Richard EDEN and Elizabeth KANE, by pub. of banns.

May 8. William BRICKETT, of Whitehaven, County of Cumberland, gent., mariner, and Margret BARCLAY, by virtue of Consistorial licence.

July 3. Frederick WARD and Ann DEVINE, pub. of banns.

July 24. Samuel GREENE, of Skinner-row, Esq., and Emily ROWE, by Consistorial licence.

Augt. 5. Richard M'CLOUGHRY and Elizabeth MAHON, by pub. of banns.

1823.

Sept. 22. William GABRIEL and Cathrine GARDNER, by publication of banns.

Nov. 30. George SIBERY, a Private in the 10th Royal Light Dragoons of Porabello Barracks, and Mary STANLEY, by pub. of banns.

1824.

Feb. 26. James Edward BURTON, clk., and Eliza MEREDITH, widow, by licence.

Sept. 6. Thos. M'CHRISTAL, First Batt. Rifle Brigade, and Mary CARMODY, spinster, by publication of banns.

1825.

June 12. James MONCKS and Eliza GLYNN, by licence.

Oct. 10. Samuel HOLDEN and Mary FLEMING, by publication of banns.

(To be continued.)

DRAINAGE OF TOWN HOUSES.

THE Society of Engineers, London, at their meeting on 7th December, had before them a paper by Mr. G. M. Lawford, from which we take a few paragraphs. After alluding briefly to some of the now well-known defects in the earlier attempts at house drainage, the objects to be attained in carrying out a perfect system of drainage, with special reference to drains passing under houses, were stated to be as follows:—(1) The primary disconnection of the house drain from the main sewer; (2) the thorough ventilation of the entire system; (3) the secondary disconnection of the rain and waste water pipes from the house drain; (4) the immediate and absolute removal of all matters discharged into the drain from any source whatever; and lastly (5), the construction of the entire system in such a manner as to prevent foul gases or currents of polluted air from entering the house, and of such materials as to preclude the possibility of the leakage or escape of both gases and liquids. The meaning of the terms disconnection and trap was then explained, and descriptions of the different forms of disconnection were given, showing the usual type

of manhole with intercepting trap and air inlet. With regard to the ventilation of drains, attention was given to the fact that in order to create and maintain constant circulation, an inlet is necessary as well as an outlet, the position of each being so arranged as to produce a current of air throughout the entire system.

The question of trap ventilation and syphonage was gone into, reference being made to the necessity for ventilating the traps on a horizontal tier of appliances, such as a range of lavatories, as well as those on a vertical tier, such as a soil pipe. The separate trapping of every appliance was also advocated. The treatment of waste pipes and the different forms of gullies were taken conjointly, the practice of doubly disconnecting the former by means of hopper heads being strongly condemned. The three essential factors for facilitating the immediate removal of all matters discharged into the drain were stated to be the size and inclination of the latter, and the water supply. Instances were given showing the sizes of drains in relation to the greatest possible volume discharged into them, and the advantages of using 4-in. drains were described and advocated. The utilisation of automatic flushing for the removal of grease in preference to its collection by grease traps was also considered under this heading. The water supply and service was touched on briefly, special attention being given to the question of separate cisterns for closets and for domestic purposes, the author maintaining, in spite of the popular belief to the contrary, that, under the special circumstances described in detail, drinking water could be used with safety from a cistern supplying a closet.

The construction of the entire system in such a manner as to prevent foul gases or currents of polluted air from entering the house was described as embodying the various points advocated in the paper, namely, thorough disconnection and ventilation, treatment of waste pipes as disconnected soil pipes; separate trapping for every appliance; 4 in. drains combined with automatic flushing and a good supply of water. The question of the best materials for the prevention or escape of gases and liquids was treated under the three sub-headings of (1) the underground drains; (2) the rain-water, soil and waste pipes; and (3) the appliances. Regarding the first-mentioned, a comparison was made between stoneware and iron, the latter, though undoubtedly more expensive, being given the preference on account of the greater safety obtained by its use, the smaller number of joints required, and the certainty of sound joints between lead soil pipes and the underground drain. The ordinary painted rain-water pipe was described as a nuisance owing to the certainty of its choking sooner or later from internal rust; and galvanised pipes are stated to be the best for rain-water, and lead for soil and waste pipes.

Regarding the appliances, urinals were alluded to briefly, the author considering them out of place in private houses, and advocating intermittent automatic flushing in all cases. The three forms of closet in general use, namely, the valve, wash-down and wash-out were described in detail; the former being considered best. The principal objection to the two latter, when made in one piece of earthenware, being the connection with the soil pipe, but this difficulty was being overcome by the introduction of lead traps, specially adapted to pedestal closets. In concluding, the author drew attention to the necessity for testing all drains by hydrostatic pressure, as being the only test in any way resembling the pressure to which drains were liable when a stoppage occurred.

The Belfast Corporation have increased the salary of Mr. J. C. Bretland, M. Inst. C.E., City Surveyor, to £800 per annum; and that of Mr. James Munce, Assoc. M. Inst. C.E., Mem. San. Inst., Assistant Surveyor, to £350.

PROPOSED CENTRAL RAILWAY STATION, BELFAST.

This project was under discussion on Tuesday, in last week, at a meeting of the Natural History and Philosophical Society of that city. The chair was filled by Professor Fitzgerald, and the attendance was large. The scheme was criticised by several local engineers. The feeling of the meeting appeared to be anything but adverse as regards the feasibility of the project. There can be no doubt that, if the scheme can be carried out, not only would Belfast benefit, but the travelling public of the entire of Ulster would be immensely facilitated.

Mr. John Lanyon, C.E., who, with Sir Frederick Bramwell, has charge of the important scheme on behalf of the promoters, who have drawn up a bill which will be pushed forward in Parliament at an early date, opened the discussion. Having given a short history of railway communication from Belfast to Dublin on the south, and to Derry on the north, he stated that very soon a railway journey could be made from Belfast to almost any part of the South of Ireland without a break. There remained hut one blot on the railway system of the North of Ireland, and that unhappily was in the City of Belfast. It was for the removal of that blot the scheme in question had been promoted. For the year ending last June, for passenger traffic in and out of Belfast, calculating return tickets as two journeys and season tickets as three journeys, for six days in the week the returns were:—Great Northern, 1,500,000 passengers; Northern Counties about the same number, and County Down Railway, 2,500,000 passengers, making a total of 5,500,000 in and out of Belfast. A London syndicate, which had the support of many influential gentlemen in Belfast, would provide the necessary funds, and on the returns mentioned they were confident that the traffic would give them a fair business return on their outlay. Mr. Lanyon then described the details of the scheme. The central station, which it was proposed to erect about Smithfield, would cover nearly 11 acres of ground, and would have 10½ acres of glass roof, and 8,700 ft. would be available for passenger traffic. He recalled the fact that the tunnel underneath the Thames had been carried out many years ago, under circumstances not nearly so advantageous as existed in Belfast, and when it was considered that 50 ft. below the bottom of the Thames Tunnel there was nothing but sand and water, and that the stability of the tunnel had been established, surely, with much drier material in Belfast there could be no question as to the thorough safety of the tunnel underneath the River Lagan from the County Down Railway. Many people were frightened as to ventilation, but he could assure the public that there need not be the slightest fear on that score. He concluded by intimating that it was intended to erect a great hotel in connection with the scheme, worthy of Belfast and its traditions.

Mr. Otto Jaffé wished the scheme every success, and expressed pleasure at seeing the great interest which was being manifested in the matter by the citizens of Belfast.

Mr. Robert Young, C.E., strongly approved of the scheme, and said he could not understand the apathy with which the railway company had regarded the project.

Mr. L. L. Macassey, C.E., said not long since an eminent jokist in the person of Mr. Harry Furniss stated publicly that they in Belfast were fit for doing nothing but making money. But if that gentleman were present on that occasion he would see that they could do more than make money, and that they could give a careful consideration to such an important scheme as had been brought before them on that occasion. If the scheme were carried out, it would improve the commercial prosperity of Belfast, increase its population, and bring the country into closer connection with the city.

Mr. William Gray, M.R.I.A., wished the

scheme all success, and thought the Belfast public should have no objection to it so long as the London syndicate was prepared to provide the capital.

Professor Everett, Mr. Walter Wilson, a member of the firm of Hartland and Wolff, and Mr. Conway Scott, C.E., favourably criticised the scheme, and pointed out that there was an urgent necessity for a central station.

THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.

On Tuesday the above society held its annual general meeting in the Lecture Theatre, Royal Dublin Society, Kildare-street,

Mr. THOMAS DREW, R.H.A., V.P., in the chair.

REPORT OF COUNCIL.

The council are glad to be able to report the continued progress of the society during the year 1891. The roll now contains the names of 162 fellows and 900 members, making together 1,062—an increase of 160 names on the list of the preceding year. Having regard to the increased number of fellows and members, the death-rate of the year has been unusually small, but the society has sustained a severe loss in the removal of some of its oldest and most esteemed members. Two fellows and fifteen members have passed away. By the death of Canon Grainger, the society has lost one of its most active supporters, who was most regular in his attendance at the meetings. Elected a member in 1870, and a fellow in 1886, Canon Grainger was successively hon. provincial secretary and vice-president for Ulster. His valuable and extensive collection of antiquities was well known. Shortly before his death he presented it to the city of Belfast, as was recorded at the time in the pages of the *Journal*. The Rev. Charles Alexander Vignoles, son of our first president, was, with the exception of our present president, the senior member of the society, which he joined in the first year of its existence, and became a fellow on the institution of that rank in 1870. While rector of Clonmacnois, he took an active part in promoting the action of the society in preserving the venerable ruins at that place, and in protecting them from wanton destruction. From 1880 till 1890 he was a member of the general committee. During the year, on the recommendation of the council, honorary fellowships were conferred on the following, in consideration of their distinguished services in the advancement of Archaeological Science:—Professor John Rhys, M.A., Jesus College, Oxford, President of the Cambrian Archaeological Association; Robert Munro, M.A., M.D., secretary of the Society of Antiquaries of Scotland; Professor Sven Suderberg, Ph.D., Director of the Museum of Antiquities, University of Lund, Sweden; Professor Luigi Pigorini, Director of the Museo Kircheriano, Rome; Right Hon. Sir John Lubbock, Bart, D.C.L., LL.D.; Dr. W. J. Hoffman (member, 1890), Professor of Ethnology, Smithsonian Institute, Washington, U.S.A.; M. D'Arbois de Jubainville, Editor of *Revue Celtique*; John T. Gilbert, F.S.A., and Margaret Stokes, Hon. M.R.I.A. Fifteen new fellows were elected, and three members were advanced to fellowships. The number of new members elected was 261. Of these one was subsequently advanced to a fellowship, one declined election, and 14, the council regret to report, have been struck off the list for non-payment of their entrance fees and subscription. Five general meetings instead of six were held during the year. The meeting at Killarney in August was held in conjunction with the Cambrian Archaeological Association, in accordance with the resolution passed at the September meeting, 1890, and proved in every respect successful. Full details of the excursion, in connection with those meetings, have been published in the *Journal*. In addition to the excursions upon the programme for the year, one was organised in July through north County Dublin, and was satisfactorily carried out under the superintendence of the hon. local secretaries. The account roll of the Priory of the Holy Trinity, Dublin, 1337–1346, with the Middle English moral play, "The Pride of Life," from the original in the Christ Church collection in the Public Record Office, Dublin, edited, with translations, notes, and introduction, by Mr. James Mills, M.R.I.A., has been issued to the Fellows as an extra volume. It was resolved to publish the paper read by Mr. Mills at the last annual general meeting on "Housekeeping in Mediaeval Dublin," as an introduction to the volume; that paper has, consequently, not been printed in the *Journal*. The

work of compiling an index to the first twenty volumes of the *Journal* (1849–89), is still proceeding. The council regret to report that they have lost the services of one of their most active colleagues. In consequence of removing to London, the Rev. Mr. Haasé was obliged to resign his seat. In accordance with the provisions of law 17, Mr. W. R. Molloy, M.R.I.A., Fellow, has been co-opted to fill the vacancy. The council held eleven meetings during the year, it being decided not to hold a meeting in August, in consequence of the absence of most of the members from Dublin. The three senior members who retire by rotation are—Rev. Dr. Stokes, Dr. Wright, and Mr. Franklin. Mr. Malcomson has forfeited his seat by non-attendance. For the four vacancies thus created, the council recommend the three retiring members for re-election, with the addition of Lord Walter Fitzgerald, M.R.I.A., Fellow. As no other candidates have been proposed, it will not be necessary to proceed to a ballot. Two Vice-presidents go out of office in accordance with Law 16—The O'Donovan, Vice-president for Munster, and Most Rev. Dr. Healy, Coadjutor-Bishop of Clonfert, Vice-president for Connaught; both are eligible, and are recommended for re-election. To fill the office of Vice-president for Ulster, vacant by the lamented death of Canon Grainger, the council recommend Rev. George Raphael Buick, M.A., M.R.I.A., Fellow, 1888, member, 1882, to hold office for one year. The council have heard with much satisfaction of the intended introduction during the next session of Parliament of a bill to extend the provisions of the Ancient Monuments Protection Act of 1882.

The Chairman moved the adoption of the report.

The Rev. Denis Murphy, in seconding the motion, congratulated the society on the work done during the past year. He spoke of the pleasure and instruction in connection with their excursions in North Kerry, North Dublin, and other parts of the country. There was no hitch in connection with any of their proceedings. Their excursion parties represented persons differing in religion and nationality, yet nothing but harmony and social feeling prevailed. Their interesting excursion to North Dublin was largely due to the Rev. Dr. Stokes, who was really prime mover in connection with it.

The report was adopted.

The following were elected as Members of the Council:—Rev. Professor Stokes, D.D.; Dr. Percival Wright, M.A.; Fred. Franklin, F.R.I.A.I.; Lord Walter Fitzgerald, M.R.I.A.

The following were elected as Vice-presidents:—The O'Donovan, M.A., Oxon., J.P.; Most Rev. John Healy, D.D., LL.D.; Rev. George Raphael Bruck, M.A., M.R.I.A.

The Secretary read a letter from Mr. Julian G. W. Butler (who is at present in Edinburgh), stating that he forwarded the first of their photographic series of albums containing the full set of prints taken during last summer's excursion to Killarney and Kerry. He also sent his report of the work of the Photographic Department.

The Rev. Professor Stokes, D.D., read a paper entitled "St. Fechan of Fore, and his Monastery." St. Fechan, he said, was born in the south-west of the County of Sligo about the year 600 A.D. He came of a distinguished family, and devoted himself at a very early age to an ascetic and anchorite life. He soon became the founder of several religious establishments all over the central districts of Ireland. His life revealed the fact that Paganism prevailed in the extreme western parts of the country long after the Highlanders of Scotland had been converted by St. Columba. Fechan's labours extended all over central Ireland, but principally in Westmeath, Kildare, and Dublin. Professor Stokes then described the churches built by St. Fechan and his fellow-workers. Referring to the Church of St. Fechan at Fore, he said it was very interesting from the point of view of comparative architecture and history, shedding light upon the origin of Celtic art and Celtic Christianity.

Lord Walter Fitzgerald, M.R.I.A., read some notes on the "Round Tower and Holesone of Castledermot." As to the latter, he said it stands on the south side of the church.

It is locally called "The Swearing Stone," though its former use is now forgotten. It is of granite, of a class which abounds in the district. It was half buried until 1889, when he (Lord Walter) raised it and had it placed upright in cement, in order to show the hole on the east face of the cross. This stone is 3 ft. long, 1 foot 2 in. in width, and 5½ in. thick. The object of the paper was to show that General Vallancey and other writers erred in their description of the stone. The scores round the hole were really part of the cross, and not, as General Vallancey supposed, Ogham characters.

The following resolution, proposed by the Rev. Dr. Stokes, and seconded by Rev. Denis Murphy, S.J., was passed unanimously:—

That this general meeting of the Royal Society of Antiquaries of Ireland has heard with the greatest regret of the death of the Right Rev. William Reeves, D.D., Bishop of Down, Connor, and Dromore, eminent as he was above most living Irishmen in the special department of studies to the development and promotion of which this society is devoted. That this society recognises the obligations under which his labours have placed antiquarian and historical students in the production of such works as "The Antiquities of Down, Connor, and Dromore," "Adamnan's Life of Columba," his treatise on the Culdees, "Colton's Visitation," as well as in the multitude of communications, smaller in size, but no less weighty in matter and importance, which poured from his pen, enriching our literature with the ripe fruits of his varied scholarship. That this society feels bound to express its sense of the deceased prelate's kindly courtesy and readiness to assist those who sought the help of his vast learning, and is glad to have experienced in its own meetings the benefit which that learning could impart. That the hon. secretary be directed to convey to his family this expression of this Society's estimation of the late Bishop, and to express the sincere sympathy of all the members thereof in the loss his family has sustained, which is not theirs alone, but that of the world of literature at large.

Another of the papers submitted was entitled "The Use of Signs in the Ancient Monasteries, with special reference to a Code used by the Victorine Canons at St. Thomas' Abbey, Dublin," and was by Mr. Henry Berry, M.A.

TENDERS.

For the erection of labourers' cottages in the various townships of Navan Union, for the rural sanitary authority. Accepted tenders:—

| | | | | |
|-----------------------------|------|--|--|--|
| Cottage at Slane— | | | | |
| S. Henley, Duleek | £114 | | | |
| Frislington— | | | | |
| Jas. Rowe, Rathkenny | 114 | | | |
| M'Kenna's Farm, Knock— | | | | |
| Jas. Hughes, Ladyrath | 113 | | | |
| Ballybrig— | | | | |
| Jas. Grace, Athlumney | 112 | | | |
| Rathdrinagh— | | | | |
| Chris. Navagh | 112 | | | |
| Craigies— | | | | |
| Jas. Grace, Athlumney | 111 | | | |

Tenders are sought by the Board of Public Works, to 28th inst., for the erection of a Royal Naval Reserve Battery at Tramore, Co. Waterford.

MISCELLANEOUS.

THE PROPOSED NEW BUILDING ACT.—The Institute of Architects, as before noted, has issued a series of suggestions for a draft Bill for the codification and amendment of the Metropolitan Building Acts. These suggestions were prepared in 1890-91 by the Practice Standing Committee, and were considered and adopted by the Council of the Institute on November 30, 1891. The existing building regulations are printed in one column and the proposed amendments or insertions in a parallel column, for more convenient reference and comparison. In the course of some introductory remarks, it is suggested that the details of construction, which are subject to variation from time to time from different causes, but more especially on account of new inventions in building material or new methods of construction, should be omitted from the body of the Act and placed in schedules as bye-laws which can be altered from time to time as may be thought desirable, without interfering

with the general working of the Act or necessitating fresh legislation. This suggestion is so entirely in accordance with common sense, and the necessity for such a provision has already been so decisively shown in various instances, that we may almost regard it as a foregone conclusion in connection with any fresh legislation on the subject of building.—*Builder.*

HOW TO MAKE A GOOD SOLDERED JOINT.—Many times in making soldered joints it is difficult to get the surface sufficiently clean so the solder will flow readily, and without this, it is impossible to make a joint sufficiently tight for most purposes. To solder iron to iron or iron to other metals is a very difficult matter, unless a person understands the little knack of getting good results. One of the simplest and most convenient ways of doing this is, first, get the seam or joint as clean as possible without wasting too much time on it, and then, before applying the solder, make the metal hot enough to boil the acid or soldering fluid when applied. If the fluid is applied while the metal is hot, it will clean the surface and the solder can then be applied and will be found to flow freely and combine readily with the metal, and a strong and absolutely tight joint can be easily produced in this way. Sufficient heat appears to be the greatest requisite when making soldered joints, and it is surprising how the solder can be made to flow freely and combine with the surface of the metal, even when a small amount of corrosion, dirt, or grease is present, if the soldering tool is hot enough and large enough to hold the heat for some time. In soldering electric wires, no particular difficulty is experienced in making the solder attach itself firmly to the copper for there is a strong affinity between the metals, and the alcohol lamp or blow-pipe commonly used, produces sufficient heat to decompose any oxide that may be present. To solder iron is not so simple a matter, although it is quite easy when the requirements are once understood and complied with. It is necessary to have the iron clean where the soldering is to be done, but it is not necessary to spend any great length of time in preparing the surface, for if it be heated to such a temperature as to cause the soldering fluid to boil, when applied, this will clean the surface, even though it be covered with rust, so that the solder will easily and quickly combine with the iron under the influence of the soldering tool, or if the iron is sufficiently heated to fuse the solder, a better joint can in many cases be made in this way, than by the use of the soldering tool. There is no use of trying to make a good soldered joint if the article to be soldered contains water, for the water will convey away the heat so rapidly as to prevent obtaining sufficient temperature to cause the solder to combine, although it may be made to stick slightly, and any desired amount of solder can be piled on in this way, but it is impracticable to make a tight joint so long as the water is present.—*Invention.*

INJUSTICE ARISING FROM THE STAMP ACTS.—The Stamp Acts, although difficult of application in many cases, are, of course, in their general objects beneficial to the community at large, and even necessary. There is, however, one provision which often works sad injustice to individuals, and those usually of a poor class. This is the rule which makes it necessary to stamp with a sixpenny stamp an agreement under hand only. Many a solicitor can tell of cases in which their clients have been absolutely prevented by this rule from obtaining justice, and have had to put up with the loss of perhaps £6 or £7 due to them on an agreement in writing which they cannot produce in the County Court for want of a stamp, and which it would cost them a penalty of £11 to stamp. To take a case: A. was the governess at £30 a-year. Hearing that B. wanted a governess she corresponded with B. with a view to obtaining the situation, and finally it was agreed between them that A. should become governess to B.'s children at £40 a-year, subject to one month's notice on either side at any time. The parties living a long distance apart, all the arrangement was made by letter. In pursuance of the contract, A. gave her employer notice and left, and then B. refused to receive her into his house. A. was consequently three weeks without a home and had to take lodgings, but at the end of that time she got another place. She then sued B. in the County Court for £15 for breach of contract, but on tendering the letters from B. they were objected to for want of a stamp, a governess obviously not being a "labourer, artificer, manufacturer, or menial servant." She could not pay £11, and even if she had been able to do so, it would have been a monstrous tax upon her claim. She was, therefore, nonsuited, though she had an undoubtedly good case. Many other instances of equal, or even of greater, hardship might be given where poor people have been defrauded of their

rights by the absurdity of having to pay a penalty of £11 to recover perhaps only £5. Of course, too, in most of such cases the agreement in question has been made in entire ignorance of the fact that a stamp is required, and when the plaintiff dispenses with legal assistance and tries to enforce his claim in person, he hears in the witness-box for the first time that he is practically denied justice by the operation of the Stamp Act. He accordingly loses a certain sum in costs in addition to the amount he sought to recover. Where the sum claimed is a large one, the penalty for stamping probably bears a very small proportion to the amount in dispute, and then the plaintiff claiming upon an unstamped agreement will not hesitate to pay the penalty and put up with so much loss in order to gain a far larger sum. This looks very like one law for the rich and another for the poor. The poor man is debarred altogether from enforcing his little claim, because the penalty perhaps exceeds the amount of that claim; while the rich man, suing for a large sum, is only mulcted of a trifling percentage on the amount he seeks. Now probably no one will be found to dispute that the stamping of agreements is advisable, and therefore some penalty is necessary for omitting to do so; but surely the penalty should bear some proportion to the amount claimed, and it is the duty of the Legislature to remove an injustice which, though it has not often been brought prominently before the public, is none the less real. It is suggested that the penalty to be paid where an agreement which requires a stamp is offered unstamped in evidence in a court of justice should be an *ad valorem* one, and be a percentage on the value of the matter of the agreement, or, if this is indeterminate, a percentage on the amount claimed or in dispute. Then equal justice would be done all round, and the poor man could advance his claim for £6 by paying a penalty of six shillings; whereas the rich man, who sought to recover £500 on an unstamped agreement, would have to pay £25. Five per cent. has been taken simply for example, but probably the rate might be diminished for agreements over a certain value, and still the Revenue would, on the whole, gain rather than lose, while, undoubtedly, justice would be advanced and a boon conferred on poor suitors.—*Law Times.*

Illustration.

PROPOSED NEW HOUSE, CHISLEHURST.

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NOTICE.

THE VOLUME FOR 1891,

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THE IRISH BUILDER.

Vol. XXXIV.—No. 771.

THE ART OF PLANNING.*

IF it be true that one of the chief difficulties that attend the study of architecture is to be found in the number and variety of subjects with which it is essential to be more or less familiar, it is no less true that the comprehensive nature of the pursuit constitutes one of its greatest attractions, for it opens up a field of inquiry over which the mind may roam with ever-increasing vigour and interest. Absorption in one particular subject of study may produce lassitude, but no amount of devotion to a study so varied as that of architecture should ever conduce to such a result, for mental refreshment is to be found—not in cessation—but in variety of thought; and the student of architecture need never experience difficulty in finding mental repose by turning from one to another of the many fields of research that lie before him. For example, in History he will find the phases depicted through which the art has passed in bygone ages; in Literature he will become familiar with the opinions of great masters which imparted individuality to the art of different epochs; in Nature he will gather from the development of the mineral and vegetable creations, the properties of the materials in which his designs will have to find expression; in Science he will learn what is the strength and formation of such materials, and how to adapt them to his requirements without doing violence to their material characteristics; in Observation of the executed works of others, whether ancient or modern, he will, from sketching and measurement, discern how successful results have been attained, or artistic effects produced. In Design he will apply the varied knowledge he has thus acquired from History, Literature, Nature, Science, and Observation; and, by the artistic and scientific treatment of the materials at his command, he will impress his ideas and personality on the architecture of his day.

For the successful pursuit of a study so varied and so fascinating many qualifications are desirable, but three are essential: Natural Aptitude, Application, Imagination. Without the first, the student will do well to abandon the career, even though he may have spent time in discovering his want of affinity with it. Many illustrations from real life might be quoted of men who had devoted years to the preliminary study of a profession only to find that they had no aptitude for it, and have with good sense left it for a more congenial career, in which they have earned reputation and renown. If the heart, as well as the intellect, be not engaged in the work of life, you may possibly, in favouring circumstances, attain to respectable mediocrity, but you will never achieve real success. Be sure, therefore, at the outset, that you possess that earnestness of purpose and heart-love for your work which

spring from natural affinity and cannot exist without it. It is needless to insist on the importance of Application. Original genius or natural endowments cannot be acquired or imparted, but it is marvellous to what an extent Application compensates for the lack of such gifts. Was it genius that led George Stephenson to perfect the invention of the locomotive steam-engine—probably the greatest promoter of civilisation that the world has ever seen—or was it simply indefatigable application? Read his life, if you have not done so, full of lessons for all, and judge for yourselves. Or again, look at a life but recently terminated: admittedly unendowed with genius, but possessed of good sense, honesty of purpose, and earnest application, how startling the success, how remarkable the position, which was achieved by the late First Lord of the Treasury! If you have application, you possess one of the most powerful levers with which to remove and triumph over difficulties. But it is obvious that Natural Aptitude and Application, invaluable as they are, are not sufficient to qualify you for the career on which you are entering. Far away the most important work of your lives as architects will be that of Design, and if you are devoid of the mental endowment of Imagination—by means of which alone can there be Design—you will be like a ship without compass or rudder, your lives will be aimless, and you will miss the prize of your calling. Possessed of all knowledge, your works, without imagination, will be but imitations and reproductions, not designs. Equipped with learning, but devoid of creative power, you would not be artists; and, therefore, could not be architects.

I have glanced at the varied nature of your engagements as students of architecture; it would be manifestly impossible within the brief compass of this Address to discourse on all, or even a few, of these with any prospect of a beneficial result. I propose, therefore, to confine my remarks to one branch of them only, and to ask your attention to a few suggestions respecting it. The subject which I have selected is what I do not hesitate to refer to as "The Art of Planning." No doubt there are those who will regard such a designation as a contradiction in terms, for it is to be feared that there are not a few who consider planning as, at the best, a very prosaic part of an architect's work—to whose poetic fancies the idea of elevating it to the dignity of an art may appear to be a sort of architectural blasphemy. There are others who, without going so far as this, do not hesitate to relegate planning to an inferior and subordinate place, not worthy of the exercise of the higher and artistic faculties of the designer—a constructive skeleton, as it were, admirable it may be in its mechanism, but which the architect must clothe with grace before it can be admitted to the sacred courts of art. Now I do not hesitate to declare that such views of planning are thoroughly fallacious, and injurious to the best interests of architecture, because derogating to a commonplace utilitarianism what is really an integral and inseparable part of the art, the root from which grow the loftiest conceptions,—the suggestive source from which springs all that follows.

Thus viewed, you will see at once that it is impossible to exaggerate or over-estimate the importance of the study of planning. It may indeed be safely asserted that

there is no study in which the human mind can engage on the results of which the comfort, convenience, and happiness of society so much depend. This, I admit, is claiming a good deal, but no more than the study properly demands. It is not my purpose at present to emphasise utilitarianism, but do not forget that every building is designed for use; to say so is not to derogate from art, because the highest art is displayed when a building is so designed as most successfully to fulfil its purpose by combining fitness with beauty. Thus the primary field for the exhibition of the architect's art is planning. This does not appear to admit of doubt. Let me demonstrate it. What is architecture? Is it the mere clothing of the structure? or is it the artistic design of the structure itself? Unquestionably the latter; and if so, how can the study of planning be other than artistic work, the primary stirring of the dry bones out of chaos, and the life inspiration which creates out of them the useful and the beautiful? Planning is not the mere throwing together of so many forms, the chance disposition of so many lines representing walls, enclosing so many haphazard spaces representing rooms; it involves the exercise of imagination. The design of the plan is the medium for educing this quality, just as much as the design of the elevation. It is customary, no doubt, to hear the word design applied to the latter much more than to the former; but the one is really just as much design as the other; consequently the plan affords the opportunity for the display of artistic power just as much as the elevation. Not only so, but a true artist while studying and elaborating his plan has a mental drawing-board by his side, on which he rears in his mind's eye forms and proportions suggested by it and emanating from it; he disposes the arrangement so as not only to meet the requirements, but also so as to produce a happy result in point of effect; in short, the two things go together, they are mentally indivisible, and must be elaborated, not without reference to one another, but in unity. Hence experience demonstrates that a good plan will generally be found to produce a good elevation; they are integral parts of a whole; the one having been artistically studied with a view to the other, the result will be harmonious, for if the tree is good, so will the fruit be.

Did time permit, it might be interesting to divide the subject, and classify it under separate heads, treating each in turn, as for example: the plan ecclesiastical, the plan collegiate, the plan palatial, the plan municipal, the plan judicial, the plan official, and the plan domestic; and a moment's reflection will show you how easily we could find, in the elaboration of the characteristics and requirements of each, much that might profitably engage our attention. I must, however, content myself with a more general treatment, touching briefly what may be called principles, leaving the application of them to your own imagination.

None but those who have made a real study of planning have any conception of the infinite breadth and variety of the field of design which it creates. They only know experimentally the charm of puzzling over difficulties; of revising, re-arranging, and re-disposing, in order to overcome them; thereby probably creating other difficulties, which in their turn have to be surmounted

* By Mr. J. Macvicar Anderson, President R.I.B.A.: being his Address to Students, delivered on 26th ult., and published in the *Journal of Proceedings*.

by a further similar process, and so on, until after many disappointments, many failures, and many inventions, a satisfactory result is at length reached. It is now many years since I resolved never to let a plan leave my hands until I felt satisfied that it was right; and in battling with the difficulties thereby created until they have been successfully obviated, I have found some of the most engaging studies of professional life. The question with you should never be, whether a plan is good enough—that is an unworthy standard,—but rather, is it the best that I can design? The former, the “it-will-do-well-enough” standard, prevails far too commonly; the latter is the only standard really worth working for, because the only one which will lead to attainments beyond mediocrity. Never, then, rest content with a plan until you are satisfied that it meets and fulfils all the requirements of the case, in the best and most complete manner that you can think of; the plan is the foundation of the whole design, and I need not say to architectural students, that if the foundation be faulty, there is not much hope for the superstructure.

(To be continued.)

THE FINE OF IRELAND.

THE Irish word Fine, or Finead, literally means a family or house. In the Brehon laws it was used principally in three distinct senses: first, in the limited acceptance of the word as applied to all those related by blood and within certain degrees of consanguinity; secondly, as regarded the lord and his Céiles or vassals, Fuidirs or base tenants, and other dependents; and thirdly, in reference to all the inhabitants of a Tuath or territorial political unit, and who might be regarded as the Céiles and dependents of the Righ or chieftain. The whole recognised members of a Fine, in the sense of a particular family, constituted the Fine Duthaig or hereditary family. This embraced all within the degree of consanguinity entitled to inherit property or liable to pay mulcts or fines. In this latter sense, the term Fine corresponded with the Anglo-Saxon word Maegth, and it extended to the seventeenth degree. To this limit relatives by blood were entitled, in default of heirs, to a share in the Dibad or property of a deceased person.

The circle of the Fine Duthaig included several stages of consanguinity:—First, the Cindfine or children, the sons having the fore-right; secondly, the Bruindfine—derived from bruina, the womb—the sons and daughters of heiresses, or daughters of the Graah Fine or nobility who inherited property in their own right; thirdly, the Gelfine, which term seems usually to have signified all relatives to the fifth degree, and sometimes it was used for relatives to the fifth degree exclusive of the direct heirs.

These constituted the family in the strict sense of the word. From the Gelfine branched off, in the fourth place, the Derbfine, which included relations from the fifth to the ninth degree of consanguinity; also in the fifth order, the Iarfine or relatives from the ninth to the thirteenth degree were designated; and in the sixth place, the Judfine or relatives from the thirteenth to the seventeenth degree ranked. Beyond the latter degree, the Fine merged into a Duthaig Daine, which meant the tribe or nation at large; for these were not entitled

to a share of the Dibad or property of deceased persons, or liable for the payment of fines and amerciaments on account of crimes, &c., excepting those of their own special Fine, within the recognised degrees of consanguinity. The Gelfine were the representatives of the rights and liabilities of the family or house, and they formed a kind of family council. They were styled Cuicer na Fine, or the five Gials or pledges of the family. As these represented the roots or spreading branches of the family, they were also called the Cuic mera na Fine, or the five fingers of the Fine. When in default of direct heirs, property passed to collateral heirs; the Gelfine received their inheritance in the first instance, and they assumed all responsibilities attaching to it. In default of relatives within the fifth degree the divisible property passed to representatives of the other Fines.

Those whose degree of consanguinity was doubtful or not sufficiently known, constituted the Dubfine, or obscure Fine. These were sometimes received into the Fine Duthaig by a legal process called a Fir Caire, or true calling. In such case, the person claiming to be of a Fine was summoned before a sworn jury of Noillechs, or persons legally qualified to hold an inquisition regarding the claim. If the result of such inquisition left the matter in doubt, the claim was determined by a Cranncur or lot. Many were the ways for casting lots; but, the principal one consisted in putting three stones—one red, one white, one black—into a box or bag; the claimant was then obliged to draw until he drew either the black or white stone; if the former was drawn, he lost; if the latter turned up he won, and was admitted to the Fine. This process of drawing lots was sometimes resorted to even in criminal cases. But in trials for serious crimes the test was far more severe.

Strangers could likewise be adopted into a Fine. Such persons were called Mic Faesma or Children of Adoption, and these constituted the Fine Tacair or Fine by Affiliation. When a person was adopted into a Fine, a Trebaire or a householder entered into an oral contract with the head of the Fine, and he paid a fine for the Faesam or adoption. The Mic Faesma or adopted children participated in the succession to property only in the proportion specified by the contract of adoption entered into when the Trebaire gave bail. The Mac Faesma or adopted son of a Gelfine was generally entitled, when not forced on the Fine, to his share of chattels and land. However, the Mac Faesma of the Derbfine did not participate in land. When persons were adopted without force or violence, the fine for the Faesam or protection was in proportion to the rank of persons adopting them. A Righ or king paid seven Cumals or twenty-one cows; the Flath or chief paid half the amount of the Righ; a woman Comarb or co-heiress paid two Cumals or six cows; an Oc-aire or a young lord who held by stockage tenure, and a Bo-aire or a man who had a habitation and fee-farm lands sufficient to maintain ten or more cows, also paid each two Cumals. When such fines were paid, the adopted person could establish a Selb or occupancy on the land of the Fine. One of this class—if unanimously adopted by a Fine—might become a member of it on paying one-seventh of those fines; but in this latter case, he did not acquire the right of

establishing a Selb. When any person was kept on Faesam or under protection without the legal sanction of the Fine having been obtained, that branch of a family so keeping him was bound to provide for his maintenance by a Cis-nincis or special allowance, like what was provided for those having claims for support on their immediate kinsmen, such as aged parents, uncles, &c. This Cis or tax was usually seven Cumals, when the protected was not kept in opposition to the Fine, otherwise he was only entitled to the price of his labour, or in other words he was considered a mere labourer of that man who kept him. A provision of this sort was obviously made in order to check the introduction of strangers, and it appears to have been very necessary for preventing Flaths or chiefs from getting about them too great a number of mercenaries.

The sons of Irishwomen by Albanachs or Scotchmen were included under the term Glasfine, which meant kindred from beyond the sea.

The Fine Occomail consisted of those who from various causes had left the country; these and their descendants within a certain degree of consanguinity, and if free from crime, were privileged to be received back on their claim, and to become affiliated to their respective branches of the Fines under the Bretha Fir Caire, or judgments of true calling. If they failed to prove their claim to be affiliated directly to any branch of the Fine, their rights were extinguished. However, in such case, they might establish a claim to belong to the Duthaig Daine or nation. That meant to require the right of citizenship in the tribe. It is not easy to determine with certainty when the rights of such kinsman category for admission to a Fine Duthaig became extinct. In Wales it did not become so until the ninth degree. This corresponds to the Derbfine in Ireland. The term Dergfine, or Red-handed, or Fine Fingolach, was applied to those who killed or attempted to kill the senior members of the Fine in order to get their Dibad or property. They and their descendants were excluded from the Duthaig or right of inheritance, that is, from the benefits to be acquired in belonging to the Fine; the share of Dibad to which they might otherwise have become entitled went to pay the liabilities brought upon their nearest of kin in consequence of their crimes.

In the second sense, Fine consisted more particularly of the children, brethren and other relatives of the Flath, that is his own Fine in the strict sense of the word, and in addition of all under his protection, namely, his Saer or free and Daer or base Céiles, Bothachs or cottiers, and Fuiders, tenants at will, who paid him rents and who were known under the collective term of the Fine Cis Flathe, or the chiefs' tribute and rent-paying Fine. The free and base Céiles, who formed part of this Fine, were specially distinguished as the Fine Fognuma or serving people. A Fine in the second sense thus embraced a number of families of Fines of the first class.

A Fine in the third sense embraced all the inhabitants of a Tuath, and therefore it consisted in turn of a number of Fines belonging to the second class. The Fine of a lord constituted a Cland in its more limited sense; but Cland in its territorial and general meaning comprised all the Flaths of a Tuath with their respective Fines. It was

sometimes used in a still more general way to designate all the Tuaths governed by chiefs of the same blood.

Each one of the smaller clans comprised in a great clan gradually assumed a distinctive surname, though they often continued to be included under the chief clan name. It is thus clear, that identity of their clan names among the Irish as among the Romans and Greeks does not necessarily imply community of origin. Wherefore, the clan names of O'Brien, O'Neill, O'Donnell, O'Sullivan, MacCarthy, like the Greek Homerids in Chios, the Codrids, the Butids, the Roman Æmilii, Julii or Fabii, are not necessarily patronymics. Nor could they, except in a very limited sense, be regarded as anything more than eponyms, or names taken from some famous chieftain of their respective tribes.*

BLACKROCK AND KINGSTOWN DRAINAGE BILL.

THE electors and ratepayers of the Township of Blackrock assembled in the Town Hall on Wednesday evening last, at the summons of the Chairman of the Commissioners (Mr. J. R. Wigham, J.P.), under the Borough Fund Act, for the purpose of considering the expediency of passing a special resolution for the approval of the promotion, in the ensuing session of Parliament, of the bill now deposited by the Commissioners, under the title of the "Blackrock and Kingstown Main Drainage Bill," and for the application of the township funds and rates towards the payment of the costs and expenses attending the promotion of the bill.

MR. J. R. WIGHAM, J.P., C.T.C., presided.

The Chairman, in the course of a lengthened address, entered into particulars as to the polluted state of the foreshore and the scheme they had adopted as the best, and next proceeded to deal with the bill before Parliament. He said:—

The object of this bill is to authorise the formation of a joint Drainage Board composed of Kingstown and Blackrock Commissioners in certain proportions; the duty of the Board to be, to cleanse and purify the foreshore of both townships, from the point near Booterstown where the Pembroke Township adjoins that of Blackrock, to the point near Bullock, where the Dalkey Township adjoins that of Kingstown. The work is to be accomplished by the construction of an intercepting sewer, into which all existing sewers, and any which may be made hereafter, shall discharge, thus keeping the whole foreshore of both townships free from pollution. The cost of the work is estimated at £50,000. The money is to be raised by the Board by a sixty years' loan, the interest on which is to be paid annually by both townships in proportion to their respective valuations. The bill provides that the taxation necessary to pay the interest and all other expenses, including sinking fund, &c., shall be paid, one half by the landlord and the other half by the occupying tenant, just as poor rate is paid. These annual payments will amount to a sum equivalent to about four or five pence in the pound on the entire valuation. Thus a tenant occupying a house valued, say, at £60, would have the advantage of this most beneficial work for the trifling sum of about 10s. per annum—i.e., about two pence in the pound. As regards the mechanical details of the plan, briefly they are these: The intercepting sewer will be constructed, as far as Blackrock and the western part of Kingstown are concerned,

along the unused rampart on the sea side of the railway, and in the eastern part of Kingstown between the harbour and the railway till a point beyond the Victoria Baths is reached, where the sewer will be made wider, and will be covered by a concrete roadway, forming a beautiful esplanade for the use of Kingstown people and their visitors. The wide sewer will be sufficiently large to retain the sewage during the flow of the tide, and it is from this tank sewer that the outlet pipe, which is 3 ft. in diameter, will be carried right under the sea to the point of discharge, north of Bullock, near a place in the sea called the Leek Rock. This outlet will be about 600 ft. from the shore, and at a depth of 30 ft. below the level of low water, and the discharge will only take place at ebb tide. An automatic arrangement will effect this, and also prevent the flood tide from entering the sewer. The tidal currents at this point have been very carefully observed, and there is no reason to suppose that any sewage discharged there can possibly be carried back to the shore. On the contrary, the set of the tidal currents will carry all out to sea. This effectively disposes of the objections which certain bathers have made to the bill. These are the chief mechanical outlines of the scheme, and its details have been approved by engineers of the highest eminence. Various other plans have been considered; for example, it was suggested that we should seek an outlet for Blackrock sewage somewhere within the township itself, but owing to the shallow water all along our coast, this suggestion is impracticable. Plans for precipitation were also considered. The difficulties with regard to that means of disposing of sewage are—1st. The necessity for obtaining a suitable site, whereon to erect the precipitating works. 2nd. The great annual cost which the maintenance of such works would entail on the township; and 3rd. The fact that even if by this means, or, indeed, by any means, Blackrock ceased to pollute its own foreshore, that foreshore would still be polluted by the infinitely greater amount of sewage discharged by the Kingstown Township upon it. In fact, any work of this kind would be utterly useless so long as the festering mass of pollution which is being continually poured into the shallow water of our shore from the Kingstown drains, is allowed to discharge close to the boundary line between the townships at Salthill. The sewage, which is here discharged by Kingstown, is not only that from the district immediately contiguous, for which it might be considered the natural outlet, but the Kingstown Commissioners have quite recently constructed a new sewer conveying to the same outlet the sewage of a large portion of their township in the neighbourhood of St. John's Church. Besides all this, some years ago, on a complaint being made to them that a sewer discharging near the East Pier was becoming offensive, they actually reversed the levels of their drainage pipes, and emptied that sewer also at the Salthill outfall, thus discharging upon the Blackrock foreshore probably two-thirds of the entire sewage of the Township of Kingstown—an unjust proceeding as regards their own ratepayers resident in Monkstown ward, and an additional injury to the Township of Blackrock, already suffering from their action to an almost unbearable extent. It is evident, therefore, that it would be sheer folly for us to attempt any scheme of drainage which would apply solely to our own township, and, for similar reasons, it would be equally impossible for Kingstown to adopt any satisfactory scheme which would not include Blackrock. The highest engineering opinion is to the effect that for two townships situated with regard to each other as are Blackrock and Kingstown, having deep water and strong tidal currents, by far the best plan, and much preferable to any scheme of precipitation, is to use a deep-sea outlet, especially when, as in this case, the outfall at the Leek Rock is so excellent and well-suited for the purpose, that, by using it, both town-

ships can be thoroughly drained, the foreshore of each purified and cleansed, and no portion of either township, nor of the neighbouring Township of Dalkey, can possibly be injured by the return of sewage to the shore. In short, that, under existing circumstances, the plan proposed by our bill is the only course we can properly adopt.

NOTES, ANTIQUARIAN AND HISTORICAL, ON THE PARISH OF CLANE.*

AFTER describing the position of the parish, the author said the present bridges of Clane and Millicent are near the site of two ancient fords, from the former of which Clane derived one of its names, *Clane Ath*—the Meadow of the Ford. The other gave its name to Castlesize, which is given in old maps properly as Casan Size. Casan is Irish for a path, and "Size" in course of time came to take the place of "Soillse," which means light. The original form of the name was the "Path of Light." Many fords in different parts of the country now spanned by bridges, still go by the name of *Ath Solais*, or the Ford of the Light. There still remain a considerable number of ancient Irish local names in the district of Clane, the propriety of which may still be seen. Clane itself was so called for its wide meadows near the river; and the name occurs again in Clongowes—the Meadow of the Smith—and in Clonsamho. The author gave a number of instances of other Celtic names. Daaro, or Derry, near Turnings, shows that there was once an oak wood there. There are a few ancient remains in the district. Some forty or fifty years ago there existed what was called St. Brigid's Chair and Thimble, besides a stone said to bear the imprints of her feet, a little above the head of the mill-race in Clane, where there is now a disused quarry. He was of opinion that it may have been an old cromlech. The well beside the Chair was known as St. Brigid's Well. On the banks of the Butterstream, nearly opposite the ruins of the Abbey of Clane, there is a genuine pre-Christian relic. This is a large block of stone with a hollow cut in its upper side. It is what is called a Bullain or Rock Basin, of which there are many in Ireland, and was doubtless used in Pagan worship—an offering of milk or meal being deposited in the bowl. Not far from this stone there is a large moat or tumulus covered with trees, and close to this is a Sunday well. In the sixth century, Ailha, Bishop of Ferns, founded an Abbey in Clane, and it is supposed that the old parish church of Clane, now disused, marked the spot where this Celtic Monastery stood. The chief event in its history was the holding of a Synod there in 1162. Shortly after this the district was divided among the followers of Stronghow, and the native chiefs were driven away. Clane was almost exempt from the raids of the Danes, who are recorded to have plundered it only once, on which occasion the natives pursued and inflicted signal slaughter upon them. There was an interesting memorial of the Celtic age in the lands which formed the endowment of Hewitson School, at Betaghstown. The ancient Irish chiefs founded numerous hiatachs, or houses of hospitality, and endowed them with lands, which were called Ballyhetaghs. These lands were probably endowments formerly given for this hospitable purpose by some Celtic chief. In the early times of the Pale, Clane, like other towns on the border of the Pale, had a sort of local government. In the fifteenth century there are at least two references to the portreeves and commons, or burgesses of Clane, and there were traces of municipal property belonging to the village.

* See "Manners and Customs of the Ancient Irish," vol. I. Introduction by W. K. Sullivan, Ph. D., pp. clxii. to clxvii.

* Abstract of Paper read at meeting of County Kildare Archaeological Society, by Rev. Canon Sherlock, Rector of Clane, on 27th ult.

THE NEW TOWN HALL, NEWRY.

OBJECTIONS TO THE "CONDITIONS" BY THE CONTRACTORS.

We understand that, on the 11th ult., the board's solicitor (Mr. Carey) forwarded to the contractors for the erection of the new town hall, the draft agreement and bond for signature, but on the following day they sent a letter, in which they mentioned a few alterations which they required to be made in the "Conditions" previous to signing. The matter having been brought before the Board at last Monday's meeting, it was arranged to ask the parties to attend on Wednesday, and to discuss the points in dispute. Accordingly, at twelve o'clock on that day, the Board again assembled, and we print from the local *Telegraph* a report of the proceedings:—

Mr. John Collen (senior partner in the firm of Collen Brothers, Portadown) said that he should, at the commencement of the proceedings, wish to correct a rumour which had been circulated in Newry, and a reference to which was made in the local newspapers on Tuesday, that they refused to carry out the contract. That was not so; and he took that opportunity to contradict the rumour. They were quite prepared to carry out their agreement, and would begin operations as soon as possible. They made objections to certain clauses in the conditions under which they were to build the hall, to make it a reasonable contract between two parties. He thought it well to make these observations at the outset.

Mr. Carey (solicitor)—The representatives of the Press are present, and your remarks will go forth to the public. Practically speaking, there were only three matters in dispute—the clauses in the conditions relating to "Arbitration," "Strikes," and the "Condition of the Bridge."

Mr. Collen said he wished to have a clause inserted, to empower the arbitration of any dispute that might possibly—though he did not anticipate any—take place between him and Mr. Batt. That was only fair to have in a contract between two parties.

Mr. Batt said he would not agree to insert that clause. The conditions which the Messrs. Collen were asked to sign were those under which they had tendered for the hall, and under which they had secured the contract. He would not introduce an "Arbitration" clause.

Mr. Collen said that was the rule of his business at the present day. Every contract he entered into within the last five years had been subject to that clause. During all the contracts he had for the last thirty years he had only two disputes, and these ended in his favour. He did not anticipate any disagreement with Mr. Batt, and he thought the introduction of the clause he had suggested would benefit the architect as much as it would himself. It was to their mutual advantage. He did not see how the clause could possibly affect Mr. Batt so that he would object to it.

Mr. Batt again stated that he would not change one single clause, nor add one to the conditions, on the grounds he had stated.

Mr. Collen said that he had a contract in Mullingar for £20,000 for the Board of Trade; one at Armagh; one for the erection of a convent in Arklow; and he had just finished two churches, under Mr. Drew, the Diocesan architect; and in each of these instances there was an arbitration clause. In fact, such clauses were recognised by the Board of Trade, which now always inserted them in their conditions of contract.

Mr. Collen (junior partner)—At present we have contracts for £60,000 or £70,000, and in each of them there is an arbitration clause.

Mr. Batt said that the best man to judge any dispute was the one who knew all about the documents and bindings.

Mr. Collen said he did not wish to dictate to Mr. Batt, but he thought it would be better for them both to have the clause inserted, in case any difference might arise between them. He would repeat that he did not anticipate that, but surely, if a dispute arose between them, Mr. Batt should not constitute himself judge of his own acts. Such a clause would not in least affect Mr. Batt.

Mr. Batt—I won't insert. I won't alter anything. Mr. Collen secured the contract under these conditions, and he now seeks to alter them.

Mr. Collen—We are prepared to carry out the work according to our agreement and in accordance with the specification, but I think there should be in the conditions the clause I suggested. I consider—and I have a strong claim to the contention—that, if a dispute cropped up on any matter, the question ought to be settled by arbitration.

Mr. Batt—Every builder that ever worked under my directions—and there have been a good many—never asked to have such as one of the conditions.

Mr. Collen—I have had it inserted in every contract the last five years. During that time, however, I never had a dispute with an architect.

Mr. Batt—I will not agree to insert it.

Mr. Collen—Why? Do you want arbitrary power in this matter?

Mr. Batt—When you agreed to the conditions, and took the contract under them, you have a right to keep up to them. I decidedly will not change them. Pass on to the next clause, please, Mr. Carey.

Mr. Collen—Then I will refuse to do the work!

Mr. Carey then read the clause, which was to the effect that "If a strike took place in Newry while the Messrs. Collen's men were erecting the hall, the architect was empowered to give the builders additional time."

Mr. Collen asked that the words "In Newry" should be struck out. Supposing any of his carpenters struck work in Portadown—where the woodwork for the Town Hall would be made—through no fault of his, what was he to do? He thought the clause should run:—"If a strike takes place," without saying where, he was to be allowed the time.

Mr. Batt—I will not change it. In that case you must do as well as you can.

Mr. Livingston—We should prefer, Mr. Collen, if you could get your woodwork done in Newry.

Mr. Collen—Strike out the words "In Newry," and that will suit me.

Mr. Batt—I shall do nothing of the kind. The Town Hall is not in Portadown; so a strike in that place need not concern the work in Newry. No matter where you have a strike, I will not see you inconvenienced if I can help it; but I will not change any of the clauses. They must remain as they are.

Mr. Collen—That clause is no use to us at all only in so far as it relates to Newry. If we had a strike in any other place it would be of no service to us.

Mr. Batt—Any other place has nothing to do with me. We have only to deal with any strike that may take place in Newry.

Mr. Collen—I think my application is a reasonable one in a contract between two parties.

Mr. Batt—Pass on to next clause, please.

Mr. Carey then read the clause relating to the building of the hall on the bridge.

Mr. Collen said his objection to that was this—that he should not be held responsible for any accident that might happen to the bridge (such as its giving way), as he did not build it, and was in no way responsible for its erection. He did not expect that anything of the sort would happen, for the bridge seemed to be all right and well built; but he wished to guard his own interests as best he could. He would build the hall as well and carefully as it could be done, but he considered that he was not to be blamed for anything that might befall the bridge, a work which he had not erected.

Mr. Carey said that practically there were only two matters to be considered—the reference to the bridge, and the insertion of the clause with regard to the arbitration.

Mr. Collen—Would you hold me responsible if the bridge proved unstable?

Mr. Batt—Certainly. We hold you to the conditions under which you secured the contract.

Mr. Collen—You have taken good care of yourselves in the way the clauses are framed, and I think you should extend me also a little protection. Now, let it be distinctly understood that I have at present no fault with the bridge. It seems to be as well done as a capable engineer and a capable builder could erect it; but I think I should not be held responsible if it proved unstable. We are anxious to have all these matters settled, as we want to get on with the work as soon as possible. If a few of the clauses were changed, the work would go on well.

The Town Clerk said the question of the strike was another important matter.

Mr. Batt again informed Mr. Collen that he could not see his way to make any change in the clauses.

Mr. Collen—We want nothing but what is fair.

Mr. Batt—I think the Commissioners have dealt fairly enough with you. They have extended the time for building the Town Hall from fifteen to eighteen months.

Mr. Collen—Yes, and I am very much obliged to them for having done so.

Mr. Livingston—Are you going to sign the bond?

Mr. Collen—Yes, when the clauses are changed.

Mr. Nicholson—Mr. Batt says he will not change them; so you should give your decision at once, as we cannot wait here all day.

Mr. Batt said if he changed the clauses, that would not be fair to the other builders who had tendered. Mr. Collen had tendered on these conditions, and had secured the contract; therefore, he would not change one of them.

Mr. Renshaw asked Mr. Collen had he not tendered on the conditions?

Mr. Collen—I did, but I did not read them!

Mr. Renshaw—They were in Mr. Batt's office, and you could have seen and read them if you had wished.

Mr. Renshaw asked was Mr. Collen not bound to the conditions, according to the wording of the advertisement asking for the tenders.

The Town Clerk read the advertisement in question, from which it appeared that the contractor was bound by the conditions.

Mr. Collen—No builder would sign these conditions.

Mr. Carey said that the Commissioners had not only extended the time for building the hall, but they had reduced the securities from £1,200 to £500.

Mr. Batt said the Commissioners had gone out of their way to oblige Mr. Collen, and he would not go so far as to change his clauses. He had made up his mind on that point.

Mr. Doherty said that, if there was a strike, he was sure the Commissioners would not see Mr. Collen far stuck. Mr. Mahood had a strike while building the bridge, and the Commissioners did not complain of the delay. He was sure they would treat Mr. Collen in a similar manner.

Mr. Dowdall said there was one matter he wished to refer to. He concurred with Mr. Batt that no change ought to be made in the clauses, as all the contractors had tendered on these conditions, and Mr. Collen had secured the contract. If they changed them to suit Mr. Collen, that course would be highly unfair to the other builders who had put in tenders.

Mr. Nicholson asked Mr. Collen would he sign the bond?

Mr. Collen replied that he would not, at present.

—After a great deal of discussion on the subject,



✠ THE CATHEDRAL OF THE BLESSED TRINITY, WATERFORD, AS RESTORED. ✠

MR. THOS. DREW, R.H.A., ARCHT

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The Messrs. Collen said that they would take legal advice on the matter.

Mr. Carey asked them when they would be able to inform the Board as to whether or not they would sign the bond?

Mr. Collen replied that he would do all in his power to have an answer sent them by Friday.

Mr. Carey then gave Messrs. Collen the conditions, so that they could have legal opinion on the questions they had raised.

[As we go to press, we learn that the contractors refused this day (Feb. 1) to sign the "Conditions." The next lowest on the list of tenders submitted is that of Messrs. Dixon and Campbell, Belfast, who will now be asked to undertake the contract.—ED. I. B.]

"ADVERSARIA DUBLINIENSIS."*

"THERE can be no doubt that Dublin had some unique features. It was beautifully situated, it had to its great artistic gain, but to its monetary loss, a clearer atmosphere than the great English cities. It had many noble public monuments, and some parts of it were very picturesque, and others imposing, but it was far from having kept in step with that movement of growth and adornment in great cities, so characteristic of this century. In size and wealth it was vastly outstripped by Glasgow, Liverpool, and Manchester, and other huge British towns. Belfast was rapidly striding up to it; in beauty Edinburgh left it far behind; in unhealthiness it held a melancholy pre-eminence. Dublin was old without being venerable; no graceful relics of antiquity attracted the visitor. Their cathedrals having passed under the hands of the spoiler, the amiable Goth, who destroyed by restoring. The only remnant of the past which they possessed was Audoen's Arch and a coal hole, which antiquaries said was once part of St. Mary's Abbey. A great part of Dublin consisted of labyrinths of narrow, tortuous, and squalid streets, without a trace of even the dirty picturesque to relieve the barren hideousness. The better part of the town was full of curious incongruities, five squares with scarce a flower in them, broad streets where one would naturally look for trees but does not find them, noble houses with dirty windows and general want of paint, no common design regulating the building of even new streets, every man building what seemed best in his own eyes, dreadful outrages on taste, erected on most prominent sites, and yet some even of the wealthiest parts of the City of Dublin were oppressively ugly streets, which sometimes began well, but ended abruptly. Sackville-street, which an almost religious tradition compelled them to believe to be the finest street in Europe, might have some claim to the title if it were twice as long, but in fact it was stunted in length and grimy in tone and full of artistic incongruities. The Rotunda was out of the direct line of vision at one end, and O'Connell Bridge at the other. Nelson, from his majestic elevation, looked scornfully down upon the pallid ghost of Sir John Gray, and Daniel O'Connell of gigantic proportions, glanced with a merry twinkle in his eye at William Smith O'Brien, of small but defiant stature, who turned towards the Conciliator a contemptuous shoulder; while further up the street the devotion of Ireland to the cause of temperance displayed itself by an empty pedestal, with a placard on it inviting subscriptions in the smallest coin. Such failure of street effect was all the more deplorable—considering that Dublin, unlike most British cities, was possessed of surroundings capable of yielding lovely perspective."

* Extract from lecture by Rev. Dr. Carmichael, delivered at the Jellicoe Hall on Saturday afternoon.

WATERFORD CATHEDRAL.

THE Cathedral of the Blessed Trinity, Waterford, which was re-opened to public service on the 26th of June last year, and of which we gave a full description at the time, has undergone a thorough renovation under the hands of the architects and sculptors engaged thereon.

With present number we give a view of the nave, which will convey some idea as to the improvements effected in the interior of the building. The Classic style, in which it was designed by Mr. Roberts in 1773, has been respected, and the important alterations that have been made are a development of the capabilities of the original building and its greater adornment, rather than any violation of its original conception. The removal of the galleries, the building up of the lower range of windows, and the effective lighting from the upper windows, is striking, and must obviously be an improvement. It has been also pointed out, that the building had been curtailed for congregational use, and its interior perspective view marred by being divided into two sections. It has now been opened by a great arch, incorporating the two; and it must be admitted that the architectural vista of the choir is very fine. With the removal of the cross wall and cross gallery came the removal of the organ to the generally-adopted position in modern churches—the east end, close to the choir. At the east end has now been set up all that is essential to a cathedral choir;—there are six stalls at back for clergy, the next stalls are for men choristers, and the front stalls are for boys. The choir fittings are of oak, in beautiful workmanship. The pulpit embodies, in a new design, parts of the former one, which was a memorial to the late Bishop Daly. The lectern (not completed in time for the re-opening of cathedral) is described as a work of fine character in Renaissance style, and is being executed in Dublin. It is a memorial of the late Rev. Dr. Gimlette, Rector of Dunmore East.

Mr. Thomas Drew, R.H.A., is the architect who has been engaged in the whole of this work, assisted by Mr. R. Caulfield Orpen; Mr. A. P. Sharpe was the contractor. The carving was by Mr. Henry Emory; and the brass and iron work by Messrs. McGloughlin and Sons.

NOTES OF WORKS.

The Round Room, Mayoralty House, Dawson-street, is to be re-decorated. Messrs. Sibthorpe and Son, Molesworth-street, furnished the Corporation with an excellent design for the improvement of this magnificent apartment, and they have been commissioned to carry it out, at a cost of £750. The electric light will be introduced in the coming season.

By our advertising columns it will be seen that the Clonmel Town Council are taking active measures to procure an efficient water supply for their town. They seek tenders for the construction of service reservoir, filter beds, and the laying of the necessary mains, &c. Mr. W. H. Radford, of Nottingham, is the engineer.

New wagon-repairing shops are about being erected at Belfast, for the Great Northern Railway Company. The building will be 129 ft. long by 49 ft. wide, constructed of timber, with iron roof principals, partly covered with glass and corrugated iron. The plans are by the company's engineer, Mr. W. H. Mills.

New schools are to be erected at Portumna for the Sisters of Mercy, from plans by Mr. W. H. Byrne, F.R.I.A.I., architect.

Under the directions of the same architect, Kildalkey Church, Co. Meath, is about to undergo improvement, including the erection of a new gallery, &c., the tenders for which are open till 6th inst.

A new Parcels Post Depot is about to be erected in Amiens-street, on a site adjoining the Great Northern Railway, from plans, &c., by the Board of Public Works.

The same Board advertise for tenders for the erection of a Coastguard Station at Ballygeary, Co. Wexford, till 10th inst.

The Dundalk Town Commissioners have decided upon making application to the Local Government Board for a loan of £7,000, to complete the main drainage of their town, from plans prepared by Mr. James Gaskin, C.E.

The reconstruction and rearrangement of the schools of the Royal College of Surgeons, St. Stephen's-green, which have been in progress since last summer, are now very nearly completed, and it has been arranged that they shall be opened on this day, by the President and Council of the College. The chief work of reconstruction (says the *Medical Press*) has been the erection of a spacious dissecting room. Most of the old buildings which did duty for this purpose have been entirely removed, and the space whereon they stood excavated. Fireproof floors and roof have been put in, and every requirement for anatomical study provided. Attached to this department is a bone-room, a ladies' dissecting room, and a suite of apartments for female students, as well as work-room and private room for the professors. For the accommodation of the physiological department, a new lecture theatre has been built, a laboratory for biological study, a room for physiological chemistry, and private room for the professors, have been erected. The large histological laboratory constructed a few years ago still remains. The chemical laboratory has been enlarged to nearly double its previous size, and private rooms for the professors have been attached thereto. In the old part of the school room has thus been made for a students' common room and other apartments. The heating and lighting of the school have been provided for by a complete new system of hot-water pipes and by an electric light installation, which latter also extends to the college itself. The effect of this illumination will be to increase indefinitely the opportunities for anatomical study, which has heretofore been pursued, after nightfall, under difficulties.

A STATUE OF S. RICHARD.—Chichester Cathedral is the only English cathedral that can be seen from the sea, and its graceful thirteenth-century spire has for the last six hundred years done double duty as a landmark, alike to the pilgrim to its shrine, and to the homeward-bound mariner entering the historic waters of the naval stronghold of England. Acting under the advice of Mr. Gordon M. Hills, their architect, the dean and chapter commissioned Mr. Harry Hems, the well-known sculptor, of Exeter, to model and carve a statue of S. Richard, the celebrated thirteenth-century saint and bishop of Chichester, and place it in the niche that has stood vacant so many hundreds of years in the south-west porch, facing directly down the cloisters. The work has now been brought to a successful termination, and gives general satisfaction. S. Richard is shown in full canonicals, with a crozier in his left hand, and the right held up in the act of benediction. At his feet is a chalice, suggestive of the miracle that is associated with his name, and which the faithful affirm really took place. When saying mass at the high altar, S. Richard dropt the chalice, but, although it fell to the ground, not a drop of the consecrated wine was spilt. The new rood-screen, of carved oak, which divides the choir from the nave (the widest in England, save York) is generally and greatly admired.

THE ELECTRIC LIGHT IN BATH.

At a recent meeting of the Surveying Committee of Bath Town Council, the clerk read the report of the Electric Committee as follows:—

Your committee have considered the letter of the 18th December last from the Town Clerk, stating that he was instructed by the Watch Committee to call the attention of your committee to the defective electric lighting of the city; first, as regards the fluctuating character of the lights, and, secondly, as to the frequency of their going out. In consequence of the grave nature of these complaints coming from the Watch Committee, a consultation was held with the Electric Light Inspector (Mr. Gatehouse) appointed by the Authority under the Bath licence, and his opinion was obtained thereon. With regard to the first complaint—the fluctuating character of the electric lights—the Inspector reports that he has constantly watched the public electric arc lights, and considers that the fluctuation in the lights during the last quarter of the year has not been more than may have been reasonably expected, considering the unusually trying weather during that period. He has, however, made some suggestions, which your committee consider will prove useful in steadying the lights. In reference to the second complaint—the frequency of the electric lights being out—your committee find, from the police official report placed before them of the last quarter's electric lighting, viz., from Sept. 29th to Dec. 25th, that there have only been 245 hours of failure in the electric light, whereas, reckoning all the 84 electric lamps, 93,753 lighting hours have elapsed during the same quarter. The company have assured the committee that they are at present in conference with Messrs. Callendar and Co., the eminent electrical engineers employed so largely for laying electrical mains, to devise some means by which the possibility of an accident such as occurred on the night of 26th Dec., may be completely guarded against, and that any plan recommended them shall be adopted. Your committee hope the above information will prove satisfactory to the Watch Committee.

Mr. Sturges: When they looked at the complaints officially, they did not appear so bad as at first sight they seemed to be. Of course everybody knew that the lights had flickered, but their own official adviser—who ought to be above suspicion, and whom he believed was thoroughly honest—said that on the whole he did not think that they had much to complain about. The weather had been exceedingly trying, not only to the electric light, but also to the gas light. He had looked into the official report, and though some persons would not believe it, still it was the only official report they had; and if they were going to suspect everybody and everything connected with the carrying out the work of the city, they would have a troublesome life of it. The friends of the electric light wished it to be judged with the same fairness as they judged the gas. The police reports were the only reports they could appeal to, and they ought to take such reports as being fair. If they took these reports, they would find that the gas had suffered as much as the electric light. The number of hours the gas had failed was ten times more than the electric light, but then they had ten times more gas than electric light. He did not say the gas light had failed even as much as the electric light, for he knew different, but it had failed, and owing to the weather. Mr. Mitchell brought under notice a method of supplanting the carbon by something else. He had sent it to Mr. Massingham. They must not be so severe on the electric—it was a new industry, and the gas light had to pass through all the ordeals the electric light had to. He had never liked the present globes, which were exceedingly dirty, and consumed 65 per cent. of the light, and he was glad to say they were on the track of something better—it was a great evil that so much of the light should be lost. The four lamps in High-street had on them new opal globes, sent down by the London directors; they did not emit more light, but they had the advantage of being more readily cleaned. Mr. Gatehouse had introduced a solution which would clean the globes more easily, but he hoped

the ground glass globes would be got rid of altogether.

General Mainwaring said the report simply stated that so many lamps were out on certain nights. He was glad to hear that it was contemplated to use something better than carbon, as it certainly did flicker at present. With reference to Mr. Sturges's remarks about gas lamps, he saw that the lamps that went out ranged here and there all over the town, but when the electric light went out the whole thing went out, and on a recent occasion the whole of the electric lights were out in the city. As illustrating the long time the globes took to clean, he mentioned that he was passing one of the lamps the other day which was being cleaned. The man at the foot of the ladder shouted, "Ain't you coming down to dinner?" whereupon the man who was cleaning the lamp said, "No, when I gets up here I spends the day."

Mr. Morris said he and Mr. Gatehouse had spent an evening at the Electric Light Works, testing various media, with the view of discovering the best means of avoiding undue brilliancy, at the same time securing all the light that was possible. They tried experiments with rice paper, oil paper, and so forth, until they got what Mr. Gatehouse conceived to be the most desirable medium of light, and he was now endeavouring to obtain a glass which would meet all requirements.

Alderman Bright was very glad to hear Mr. Sturges's explanatory remarks, for there was plenty of room for improvement in the electric light. An impression was abroad that the electric light in the City of Bath was not worthy of the city—that it was not so good, in fact, as it was in other places. He himself was sometimes quite startled at the winking and blinking of the light, and it frightened the horses. He had seen the light outside the Electric Light Works in Dorchester-street jump about and perform the most extraordinary evolutions. He hoped they would continue their efforts until they got a more perfect light.

Mr. A. Taylor moved that the report be referred back. He did so for one special reason. The report spoke of the trying weather they had had, but it seemed to him that they had had one of the most seasonable winters that they could possibly expect. He remembered last year Mr. Sturges saying that the electric light was peculiarly favourable to anything like hard frost and snow, and now they were told the trying nature of the winter had been the means of putting the light out. What he should like to do would be to send back the report, in order that Mr. Gatehouse might tell them the kind of weather that was so injurious to the electric light, so that when weather of that kind came on they might provide themselves with some other light.

Mr. W. B. Bartrum: We all know what it is: it is the weather, and we are going to try to rectify it. The ice got into the electric light, and put it out. The Callendar Company, who laid down the main, had been consulted, and what they recommended would be carried out.

Mr. Ricketts said the comparison with what happened to the gas many years ago, was no answer to the complaint. They had entered into a contract with the Electric Light Company for a certain thing, namely, to have lamps of a certain power, and they were now told by the Chairman of the Committee, that, instead of getting 1,200 candle-power, they did not get about one-third of it; 65 per cent. of the light went in another direction. They could not go on in this way waiting for the electric light to be developed. In Saville-row they had actually removed the gas standard, and the electric light had practically failed. He would move that the Surveyor be requested to get a couple of good oil lamps put up there, for the purpose of supplying the deficiency. They might do worse than return to the oil lamps.

Mr. Cox thought the Chairman of the Electric Light Company should be a little

more explicit, and tell them what happened on the night when the lights went out.

Mr. Sturges, in reply, said there was no need to answer Mr. Ricketts or Mr. Taylor—they were not friendly to the electric light, and poked fun at it; for gentlemen to poke fun at it in the way they had done, was hardly business. As regarded Saville-row, the Committee had been there many times, but he had promised some of the residents there that they would go up again. It was still *sub judice* that they wished to please the people in Saville-row, but really the Committee had not yet been able to find out that they had any reason to complain. As regarded what happened on the morning of the 26th December, he explained that they had a very severe frost, followed by a rapid thaw. It went from one extreme to the other. Everybody knew that metal, especially iron, was susceptible to expansion and contraction—the frost contracted it, and the thaw expanded it, and broke as it were the tissues surrounding it, so that the electricity escaped into mother earth, as they called it.

The report was adopted.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 224, vol. xxxiii.)

MEANWHILE, the Irish were known to be altogether unprovided with ammunition and the necessities for war; while this knowledge emboldened Sir Charles Coote to march upon Leix, in order to bring relief to his son Sidly Coote, the Governor of Birr. Thence he returned to secure the passages of the River Barrow, which lay between himself and the City of Dublin. Whereupon, Hugh Mac Phelim Byrne, having been nominated chief commander of the Catholics of Leinster, Lord Mountgarret and Mac Thomas, colonel of foot, collected a force from Munster that arrived in haste to join that of Leinster. The Munster men were under the command of Lord Ikery. These were only partially armed when they reached the Barrow—then in possession of the enemy, who were well furnished with fieldpieces and all necessities for the field. They were also well-disciplined troops, and a large contingent of horse had been collected under command of the Earl of Ormonde and Sir Charles Coote. The Irish commanders, Hugh Mac Phelim and Mac Thomas, were rightly of opinion, notwithstanding their numerical superiority, that their raw and undisciplined recruits, having little or no ammunition, should not engage with such trained soldiers as were opposed to them. However, Lords Mountgarret and Ikery differed from them, and the unruly troops under their command were eager for a battle, which had no great assurance of victory for them.

Still the English commanders, fearing the Irish might pass between them and Dublin, resolved on crossing to the Kildare side of the Barrow, and to move rapidly in the direction of Naas. This movement gave spirit to the Irish, who followed in a disorderly crowd, and Lord Mountgarret ordered their advance. Already the Munstermen began to reproach the Leinstermen, and to boast as, without their aid, they could defeat the flying soldiers, so they should alone enjoy the spoils after their anticipated triumph. The disorder and confusion of their divided bands, as also their want of arms, were well known to the enemy, and Ormonde having selected a favourable position on the side of a hillock, called Cnocaterife, drew up his forces in battle array, and mounted his field-pieces so as to sweep the open plain which lay before him.

In vain did Hugh Mac Phelim and Mac Thomas offer advice as to the disposition of their men; Mountgarret would not adopt their opinions, but exposed his half-armed rabble to the fire of their enemies. However, Mac Thomas led his regiment round to the rear of the English; and, had he been well supported by Mountgarret, some chance remained to make an impression on their lines: But, Ormonde's musketeers advanced steadily

against them, seconded by a select and choice troop of horse, when the Irish musketeers gave way, and their example was followed by those in the rear. The rout was complete, while only Robert Harpole and Walter Bagnell on the Irish side, with their troops of horse, made any head to stem the pursuers. In this battle fell the brother of Hugh Mac Phelim and Dermot Mac Dowling Kavenagh, both very valiant gentlemen. The head of this latter captain was cut off, and afterwards carried to Dublin, where it was placed on Newgate tower. He had a presentiment of his approaching fate, owing to a prophecy that he should be killed in a battle between the Irish and English on that same plain of Cnocaterife; and before setting out on his last expedition, he made his last will and testament. He also made a general confession and received Holy Communion immediately before the battle, nor would he decline that day to engage, for he fought bravely and avenged himself on his enemies. A gentleman named Gerrott Mac William Fitzgerald, of Castlehowe, an accomplished scholar in Latin, Irish, and English, as also a learned antiquary, fell in this encounter. On that day the Irish lost many of their best men, as also all their baggage and provisions. Only Mac Thomas with his regiment retreated in anything like order to his own house, which was about one mile from the field of battle. Sir Charles Coote then marched to the Earl of Castlehaven's house, where lodged the Earl of Antrim and his wife, the Duchess of Buckingham. The latter on this occasion reproached him as being the chief instrument in shedding much innocent blood, and in commencing these disturbances; while she averred that the Irish were more loyal to the crown of England than he, a man of very mean extraction. This she stated unreprieved before the Earl of Ormonde and her own husband. However, the army marched next day for Dublin, taking with them the Earl of Castlehaven as a prisoner, he being an English Catholic, but they left his goods untouched. The Earl of Antrim soon afterwards left for the north, while his lady departed for Wexford.*

THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Royal Irish Academy was held on Monday afternoon, at 19 Dawson-street.

Dr. J. H. Ingram, T.C.D. (Vice-President), presided, and there was a large attendance.

The Secretary (Dr. Wright) said that he had transmitted to her Majesty, at Osborne, and to the Prince and Princess of Wales, at Sandringham, a letter of condolence from the Academy, in consequence of the death of the Duke of Clarence, and he had received the following reply:—

Osborne, January 20th, 1892.

Sir Henry Ponsonby is commanded by the Queen to request Dr. Wright to thank the members of the Royal Irish Academy for their expression of condolence on the death of the Duke of Clarence.

The Queen learned with regret the news of the death of the Bishop of Down, President of the Academy.

The President said he was sure the feeling of the Academy would be that their secretary had acted rightly, and with very commendable promptitude on this occasion.

The Provost of Trinity College said this was the second time that the Academy had been placed in mourning by the death of their President. Only the other day, it seemed, Sir Samuel Ferguson, their former President, died while still in office, and now they had lost another President, who had not completed his entire year of office. If he were to state, as his claim to propose a tribute to the memory of Dr. Reeves, that he was an intimate personal friend of his, he thought many would have the right to dispute it, because his kindly disposition and genial

manner had won him a host of friends, and consequently he (the Provost) could not lay claim to any exclusive prerogative on that subject which would give him a special claim to move a tribute to the memory of their late President. But there was one claim he had to the present position, and that was, that, as one very old member of the Academy, he might submit this motion concerning another very old member. He (the Provost) was an older member of the Academy than Dr. Reeves. He joined in the year 1843, and Dr. Reeves joined three years later. Dr. Reeves took a most lively interest in this Academy. He gave it many of the best years of his work as a contributor to their Proceedings and Transactions; and, as an old officer of the Academy, he had won his way to the highest post in it. They had awarded him a medal for his work on the life of St. Columbkille, which was known and appreciated by all who took an interest in Irish antiquities. He had occupied the position of Secretary to the Academy for a great many years, and in that period he had effected many wholesome reforms. The indexing of their Proceedings and Transactions was in a great measure his work. He (the Provost) was glad that Dr. Reeves had received the honour of being elected to the position of President before his death. They would, he thought, find a great difficulty in replacing him. He (the Provost) would now submit the resolution to them. It was as follows:—

That this Academy desires at this, its first meeting since the decease of its lamented President, the Right Rev. the Lord Bishop of Down, Connor, and Dromore, to express its deep sense of the loss it has sustained in his death, and to convey to Mrs. Reeves and the members of his family its earnest sympathy and condolence.

The Rev. Dr. Delany, S.J., in seconding the motion, said it was not his privilege to enjoy the acquaintance of Dr. Reeves, but Dr. Reeves had friends outside his acquaintance, and was known to all Irishmen, as a man who took a deep interest in the affairs of their country. At a time when feeling ran high in Ireland, there was hardly anything more welcome, especially to such an assemblage as this, as to meet a man with the genial urbanity and courteous manners of Dr. Reeves in a position removed from such feeling.

The Chairman, in putting the motion, said he had had the honour of proposing Dr. Reeves as President of the Academy, and as he then expressed an opinion as to his great learning and lovable character, he need not add anything more now. He thought this resolution should be passed in silence, and therefore he asked the members present, as an evidence of their acceptance of it, to stand up.

All the members rose.

Dr. Wright said he had received an unprecedentedly large number of letters, from members in England and in the country, expressing sympathy over the death of Dr. Reeves.

COUNTY KILDARE ARCHÆOLOGICAL SOCIETY.

ON Wednesday last was held in the Town Hall, Naas, the first winter meeting of above Society,

His Grace the DUKE of LEINSTER, in the chair.

The honorary treasurer (H. Aylmer) gave a favourable statement as to the Society's finances.

Canon Sherlock read a paper—"Notes, Antiquarian and Historical, on the Parish of Clane," an abstract of which we print on another page.

A paper by the Most Rev. Dr. Comerford (who was absent, through illness), was read by the Rev. Thomas Morran, P.P.—"Some Historical Notes on the Town of Athy."—As the "notes" collected by the bishop are familiar to the majority of the readers of our journal, we have not transferred them to our columns.

Rev. Denis Murphy exhibited an ancient Irish crozier belonging to Clongowes Wood College. It is one of the finest of the few specimens of this old Celtic work in Ireland, and was found, somewhere near the Bog of Allen.

Rev. D. Murphy then read an interesting paper on the "Eustaces of Kildare," a family that have borne an important part in the public life of this county. The first ancestor of the family was difficult to find, but he had beard that he was a relative of Maurice Fitzgerald, the founder of the Leinster family, but nothing is known to determine the degree of the relationship.

Lord Walter Fitzgerald read a paper on "The Round Towers of Kildare, their Origin and Use."

Mr. Arthur Vicars, F.S.A., showed a collection of funeral ceremonials of royal and distinguished persons, original funeral certificates by heralds of the 16th century, draft funeral roll (1578) of Sir Nicholas Bacon, Lord Keeper to Queen Elizabeth, and the father to the great Francis Bacon; also an original roll of the arms on vellum, circa 1500.

Mr. Mansfield proposed, and General M'Mahon seconded, a vote of thanks to the gentlemen who read papers, which was passed unanimously.

A vote of thanks to the Duke of Leinster for presiding, terminated the proceedings.

CORRESPONDENCE.

ST. MICHAEL'S CHURCH.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In your notice of the marriages celebrated in above church under date of the year 1816, the first is that of Abraham Donroache and Margaret Gamble; the correct spelling of the name is "Denroche." It may interest some of your readers to learn that Abraham Denroche was the first manager, and for many years proprietor, of the *Kilkenny Moderator*, established in the year 1814 by a syndicate of local gentlemen. Mr. Denroche was succeeded in the proprietorship and management of the paper by his son-in-law, the late Mr. John G. A. Prim, whose writings and great local historical knowledge contributed very much to the success of the *Kilkenny Archæological Society*.

J. G. ROBERTSON.

Dublin, 20th Jan., 1892.

STOP-COCKS AND THE FROST.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The compulsory system of having stop-cocks attached to water-pipes supplying private houses is not altogether without its drawbacks. When a severe and continued frost sets in, the consequence is, that owing to the necessarily greater exposure of the pipes to the frost, the water in them becomes frozen, and the supply altogether cut off. This actually happened some winters ago, as may be remembered, when the citizens had to make use of snow water for two or three weeks. Such a thing would not have happened previously to the use of stop-cocks, as the pipes had then a much deeper covering of earth to protect them from the cold, and the uncovered portions of the pipes could be easily thawed artificially. W. M.

A NEW CLOCK FOR ST. PAUL'S.—"Big Ben" of Westminster is likely to have a formidable rival before long. Messrs Smith and Sons, of Derby, are making a new clock for St. Paul's Cathedral. The present clock strikes the hours upon the old "Phelps" bell, but with the new timepiece is to be used "Great Paul," which weighs nearly 17 tons, the hammer employed for this purpose weighing 680 lbs., as compared with that of 450 lbs. which strikes "Big Ben" at the Houses of Parliament. The present dials, which are 16 ft. in diameter, will remain, though an improvement will be effected by illuminating the central part at night. It is needless to say that every precaution will be taken to ensure the accuracy of the new machinery, some special precision apparatus being introduced for this purpose.—*Bath Journal*.

* See John T. Gilbert's "Contemporary History of Affairs in Ireland from 1641 to 1652," vol. i., part i. Aphorismal Discovery of Faction, First Book, chap. vi., num. 48, 49, 50, pp. 29 to 31.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

WE are asked to announce that in consequence of there being no Paper for reading before the Institution, the general meeting for the 3rd inst., is postponed until the 9th prox., at 35 Dawson-street.

MISCELLANEOUS.

COLLAPSE OF A NEW BUILDING.—A serious disaster occurred at Ilfracombe on Friday afternoon. A public hall, intended to accommodate 700 people, was in course of erection as a wing to Rannaclean Hotel. While some 40 men were at work on the structure, which was complete except the roof, it suddenly collapsed, precipitating all to the ground. Nine men who were buried in the debris were dug out in 20 minutes by volunteer helpers, and carried to hospital, where seven doctors were promptly in attendance. It is feared that two of the cases will prove fatal. One man named Davey had his back broken.

TYPHOID FEVER.—A meeting of the Council of the Dublin Sanitary Association was held at No. 42 Dame-street on Thursday—the President (Mr. Frederic W. Pim) in the chair. The council transacted the usual business, received reports of nuisances, &c. The following members of council were appointed as a sub-committee to assist a committee appointed outside in drawing up a memorandum to be presented to the Public Health Committee on the subject of the prevalence of typhoid fever in Dublin:—Dr. John W. Moore, Mr. R. O'Brien Furlong, Dr. Stewart Woodhouse, Mr. G. Y. Dixon, and the president.

"GREAT THOUGHTS": (A. W. Hall, London).—The February part, which commences a new volume, is one of the most interesting that has been issued for a long time. "Looking Forward," a Talk with the Author of 'Lonking Backward,' and "An Interview with B. Aldrich," will both be read with avidity. The story, "The Mills of God," opens well, and those who commence to read this highly fascinating tale—the scene of which, by-the-way, is laid in the north country—will be almost compelled to go on to the finish. The theatrical career of Mrs. Siddons, occupies some pages in this part, and an engraving, from a painting by Gainsborough, is given. The paper descriptive of "Hereford Cathedral" is a good one, and deserves careful perusal. With this part are presented two exceedingly pretty plates, one printed in silver, depicting a Winter Scene, the other, of course in black, contains portraits of the late Duke of Clarence and Princess May.

THE USE OF OIL LAMPS.—An appendix to a report from Colonel Majendie, on the subject of accidents with mineral oil lamps, contains the following suggestions, which those who use oil lamps will do wisely to act upon:—Wicks: Wicks should be soft, and not tightly platted. They should be dried at the fire before being put into the lamps. They should be only just long enough to reach the bottom of the oil reservoir. They should be so wide that they quite fill the wickholder without having to be squeezed into it. They should be soaked with oil before being lit. Management: The reservoir should be quite filled with oil every time before using the lamp. The lamp should be kept thoroughly clean, all oil should be carefully wiped off, and all charred wick and dirt removed before lighting. When the lamp is lit the wick should be at first turned down, and then slowly raised. Lamps which have no extinguishing apparatus should be put out as follows:—The wick should be turned down until there is only a small flickering flame, and a sharp puff of breath should be sent across the top of the chimney, but not down it. Cans or bottles used for oil should be free from water and dirt, and should be kept thoroughly closed.

DEATH OF AN ITALIAN ARTIST.—Christian art in Rome (says a Rome correspondent) has suffered a considerable loss by the death of the Commendatore Francesco Grandi, at the age of 60, on the 23rd December, after having received the last sacraments and the pontifical benediction. He was from his earliest youth devoted to the art of painting, and being thoroughly Christian in his heart, he aroused the admiration of Pius IX., who appointed him Vice-director of the Vatican mosaic studio, where he afterwards became director. He had laboured with Cesare Fracassini in the world-renowned frescoes on the walls of the nave in San Lorenzo, outside the walls. He also produced several of those splendid mosaic portraits of the Pontiffs which are to be seen on the walls of the splendid basilica of St. Paul. As a fresco-painter, his work was in great demand. Leo XIII. em-

ployed him for the frescoes of the new apse of St. John Lateran, which are wholly from his pencil; and many churches—amongst them St. Clement's—are adorned by his works. As a portrait painter, he gave great satisfaction, and ecclesiastics from Austria, Belgium, Germany, and the United States have sat to him for likenesses. Being an all-round artist, no work came amiss to him; hence we find him, at the height of his fame, painting the scenes of a theatre and the historical records of a city in its town hall, as well as a church or monastery.

NATURE'S BEVERAGE.—It is a curious fact that throughout France water is considered an unwholesome drink. In that country one never sees anybody drink a glass of pure water, which is the favourite drink of most Englishmen, who rightly consider it nature's own beverage. A French peasant always mixes something with his water, however parsimonious he may be, and believes firmly that all the supposed injurious qualities of the water are neutralised by the addition of a few drops of wine or of cider. In Paris it is thought that water may be drunk plain if a piece of sugar is added, and in all French bedrooms may be seen a tray with a water-jug and a sugar-bowl. In fact a glass of "sugar and water" is considered a family remedy in cases of sickness, fainting, and so forth. In some houses a little bottle of orange flower essence is added to the tray. Amongst the lower classes in Paris, however, water is considered a drink fit for beasts only.—*Invention.*

ELECTRIC LIGHTING AT CHICAGO.—Some fifty separate contracts are to be let for the electric lighting of the Exposition buildings and grounds. In all there will be used, according to present plans, approximately 127,000 electric lamps, of which 7,000 will be arc, of 2,000 candle power each, and 120,000 incandescent sixteen-candle power lamps. To run the plant 22,000 horse-power will be required. By the awarding of separate contracts for the lighting of each of the buildings and of different sections of the grounds, all electric firms, whether large or small, have an opportunity to participate and to show what they can do, and at the same time a variety in illumination will be effected. One of the distinctive features of the electrical display will be that made in the main basin which runs from the lake westward towards the Administration Building, a distance of 1,500 ft. Special attention will be given to the illumination of this basin, and it will be encircled by 1,650 incandescent lamps. The lamps are to be 2 ft. apart and 3 ft. above the surface of the water of the basin. In the great Manufactures Building alone there will be 33,000 lights. The plans prepared by the electrical experts call for ten times the capacity of all the plants used at the Paris Exposition. The World's Fair directors will spend 1,000,000 dollars and perhaps more for these electric plants. Exhibitors will not be required to pay anything for light, except in cases where they call for more lamps than are furnished by the construction department. In that event they will be furnished additional lamps at actual cost. Electric power will be conveyed over the grounds in a system of tunnels. Some of the wires will, however, be hung from the structure of the elevated railroad.

DEATH OF AN IRISH CRAFTSMAN AT EXETER.—The "Union Jack" has hung half-mast high at the "Luckie Horse Shoe" studios, Longbrook-street, Exeter, for some days, in consequence of the death of Mr. Thomas Cunningham, an old and trusty member of Mr. Harry Hems' staff, whose decease, through influenza, was duly recorded in our obituary columns. He was buried on Saturday afternoon at the Higher Cemetery, amidst every mark of respect, the funeral being conducted by his fellow-workmen themselves, the bearers being Messrs. Burgess, Farthing, G. Harrison, Tribble, Lee, and Penningham—representatives of the various branches of the business. The coffin was of massive unpolished oak, made wedge-shape, in the style of the thirteenth century, having a full-length and raised foliated cross resting upon three steps upon the lid, with the letters "R. I. P." thereon. The name, &c., was cut in the solid lid, and ran:—"Thomas Cunningham, born 13th September, 1858, died 16th January, 1892." Amongst the tributes of affection was a large and beautiful wreath, inscribed, "In affectionate remembrance, from his fellow-workmen." The late Mr. Cunningham, who leaves a widow and young child to mourn their loss, resided at Clifton-street, Newtown, and had been for some ten years in Mr. Hems' employ. He was a wood-carver by trade, an exceedingly expert and steady craftsman. Born and apprenticed at Belfast, in the north of Ireland, he resided for a few years in the United States prior to coming to Exeter, where he ultimately married and settled down. For several years he has been delicate and consumptively inclined, but it was the dire malady now so

prevalent that ultimately—proving too severe for a frail constitution—carried him off. Mr. Harry Hems (who was out for the first time since Christmas, having himself been seriously ill) and the whole of his staff, gathered round the open grave, and the universal grief of all present was very indicative of the high esteem and affection the late Mr. Cunningham was held in by those who knew him best and loved him most.—*Western Times*, 25th ult.

ANCIENT SCULPTURES FROM CENTRAL AMERICA.—Within the past four years some interesting additions have from time to time been made to the exhibits in the Architectural Court of the South Kensington Museum, in the shape of casts of obelisks, altars, and, in some cases, originals of pieces of sculptured stones, from certain of the ruined "cities" or pueblos of Central America. The originals, or the moulds, as the case may be, were brought to this country by Mr. A. P. Maudslayi, who has devoted so much time to the research and systematic exploration of the sites of these ancient Indian towns. Most of the objects represented were found at Copan, in Honduras. The most interesting are the sculptured obelisks or monoliths, of which five are represented by plaster casts in the Museum. Three of these are elaborately carved, and each bears on its front a long-robed human figure, standing full-faced in a stiff and conventional attitude, with profuse head-gear; the sides and back of the monuments being covered with tables of hieroglyphics. The fourth has a human figure both back and front, with heads represented on its sides, whilst the fifth is covered with hieroglyphics on all sides. The human figures alluded to have been described as priests in pontifical robes; but evidence is not wanting to show that they represent gods; some which were found certainly look like idols. Four blocks from Copan, which are believed to be altars, are exhibited in the Museum. The carvings on the sides of one of these represent men in an Eastern looking head-dress, the majority of whom are sitting cross-legged on small tablets of hieroglyphs, a position which, to judge from similar carvings in the other stonework, seems to have a peculiar significance. In this connection we may call attention to the face of a step found in a temple, the original of which is also seen in the Museum. It may be noted that none of the seated figures are exactly in the same posture, some have one foot on the ground holding a scroll or other object in one hand and having the arm raised in the air or resting by the side, and each figure possesses different details on the head-gear so that the monotony of the whole is somewhat relieved.—*Builder.*

THE SPIROGRAPH.—A Frenchman has invented a simple device, called the spirograph, by means of which curves and spirals may be drawn with an accuracy equal to that of a circle described by a pair of compasses. It is (says *Invention*) in reality only a modification of the compass, having one leg vertical and the other inclined and attached to a revolving sleeve near the top of the vertical leg by a bent steel spring instead of an ordinary joint. In the foot of the vertical leg is inserted a dry point and a thread, fastened to the foot of the inclined leg, which latter also carries the marker, is attached to the circumference of the dry point. By holding the vertical leg firmly with one hand so that it cannot turn, and with the other hand revolving the inclined leg, the thread is wound around the dry point, causing the marker on the inclined leg to describe a spiral. By using dry points of different diameters, the operator can vary the curves as desired.

Illustration.

THE CATHEDRAL OF THE BLESSED TRINITY, WATERFORD, AS RESTORED.

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TENDERS.

For works at New Ross church. Mr. J. F. Fuller, architect :—

| | New Roof. | 8 new Windows each. |
|------------------------------|-----------|---------------------|
| Andrew Cullen, New Ross | £1,582 | .. £48 10 0 |
| Thompson, Bros., Wexford | 966 | .. 48 0 0 |
| H. Sharpe, Dublin | 990 | .. 42 0 0 |
| B. Millard, Dublin | 989 | .. 52 0 0 |
| J. Pemberton and Son, Dublin | 950 | .. 44 10 0 |
| D. Creedon, Fermoy | 855 | .. 43 0 0 |
| J. and W. Beckett, Dublin | 900 | .. 42 0 0 |

For the construction of a new pipe sewer 2 ft. 6 in. diameter, and closing and filling in of existing sewer, at Armagh Court-house :—

| | | |
|------------------------------|----|-------------|
| W. H. Bright, Portadown | .. | .. £565 6 0 |
| S. M'Ilwaine, Lurgan | .. | .. 442 12 6 |
| T. Collin, Armagh (accepted) | .. | .. 442 10 0 |

County Surveyor's estimate, £450.

For pointing and cementing outside of Armagh Court-house :—

| | | |
|----------------------|----|--------------|
| S. M'Ilwaine, Lurgan | .. | .. £172 12 6 |
| T. Farr, Armagh | .. | .. 166 10 0 |
| J. Woods, " | .. | .. 159 10 0 |

County Surveyor's estimate, £175.

The tender of Mr. M. Walsh, Foynes, Co. Limerick, has been accepted by the Board of Guardians of Mitchelstown Union, for the construction of waterworks in this union. The amount is £4,413.

THE NEXT YEAR'S EXPOSITION AT CHICAGO.

AN AUSTRALIAN OPINION UPON IT

ALMOST two years have elapsed since the Congress of the United States chose Chicago as the site of the great International Exhibition which is to celebrate the four hundredth anniversary of the discovery of America by Christopher Columbus. It is needless to say (writes the *Age*, in a recent issue) that Congress was not influenced in its choice by any consideration as to the suitability of that lacustrine city to afford the best site for such a display. It was decided by a party vote. New York is a Democratic city, Chicago is a Republican city. There was a Republican majority in the House, and therefore Chicago must be given the preference. If it had been proposed to hold a purely national exhibition, the claims of Chicago would have been fairly good, as her situation is more central in the States. But when the international character of the show is taken into account, there can be no doubt that Congress made a mistake, and that many Europeans, who would have taken the trip across the Atlantic to New York, will be deterred by the long land journey to Chicago. The same objection is made to the transshipment of goods, especially valuable works of art and other articles which may be injured *in transitu*. Another drawback to Chicago is the difficulty that the World's Fair Committee has had in raising the local fund which had to be subscribed before the enterprise could receive any Government aid. It is only the other day that the 3,000,000 dols. necessary were raised, and then only by the most strenuous endeavours of the committee. Had it been decided to hold the exhibition in New York, 10,000,000 dols. would have been subscribed within a fortnight; indeed, that amount of money had been promised. As it is, New York is deeply chagrined at losing what she deemed her right, and up to the present has not voted any sum towards the expenses of an official representation at the World's Fair. So strong is this jealous feeling, that one of the reasons of the defeat of the Republican candidate for the Governorship a few weeks ago was the failure of the New York Republicans in Congress two years since to procure the much-coveted boon for the Empire city. Even when Chicago did succeed in getting the exhibition, it was found impossible to get ready the grounds and buildings in time to hold the show in 1892, the anniversary of Columbus's arrival in the new world, so a compromise had to be made, and the exhibition will be officially opened at the end of 1892, but the public will not be admitted until six months later. The great objections to Chicago as the site of an

international exhibition are: its distance from the seaboard, the intense heat of summer there, the bad drainage and water, the deficient police arrangements, and the want of hotel accommodation, at least in comparison with New York. These objections will have much more weight with foreigners than with Americans themselves, who are accustomed to the extremes of heat and cold, the high charges of American hotels, and the great length of their railway journeys. As far as can be judged from the present condition of affairs, the display at Chicago will be much more successful nationally than internationally.

The Americans have shown no lack of their usual energy in obtaining the promises of foreign nations to be officially represented. Commissioners have scoured the globe, urging upon rulers and cabinets the advantages that will accrue to them should they send a fine display to Chicago. In Europe they have met with considerable success, all nations, with the exception of Italy, the Netherlands, and Egypt—which, owing to her allegiance to Turkey, may be considered a European country,—having promised to send representatives. England has been particularly enthusiastic, or, rather, the British Government has been so. This was, of course, to have been expected, and no doubt the Government fondly hope that their display may prove an object lesson in free trade. According to all accounts, British manufacturers and British producers do not share in the sanguine hopes of the Government, for we learn that in England, as also in France and Germany, the applications for space are not coming in at the rate which the organisers of the enterprise would desire. The whole scheme is a curious attempt to solve the difficult problem of running with the hare and hunting with the hounds. America has, by a wise and long-sighted protective policy, built up her manufactures, and the recent elections show that her policy will not be changed in the future. Foreign manufacturers know that, and see that there is little inducement for them to send goods to Chicago, in the hope of finding a market in the States. But if buyers from all over the world are present at Chicago, it will never do for any particular nation to allow a rival to display her wares unopposed, for she might thereby lose her market in a country where a prohibitive tariff does not exist. This consideration will no doubt have a great deal of effect on intending exhibitors; and if the World's Fair is to deserve its high-sounding title, it must be upon the influence of this that its managers rely. Italy and the Netherlands have refused to recognise the exhibition officially, not from any hostile feeling, but merely because they do not consider that the matter comes within the province of the State, and that it should be left to the enterprise of individuals. The remarkable success of the French Exhibition of 1889 is a strong argument in favor of such a policy. In that case, European monarchies could not recognise an exhibition to celebrate the Fall of the Bastille, and they consequently refused to send representatives. This refusal did not in the slightest degree injure the success of the enterprise, although it detracted somewhat from the glory of the opening ceremonies. Whatever course the Government of these colonies may adopt, intending exhibitors will do well to consider very carefully their chances of finding new markets by making a striking display at Chicago.

Although the Americans cannot make their great show very attractive to exhibitors, they are leaving nothing undone to induce sightseers to pay them a visit. Of course, the ground and buildings are to be on a colossal scale. Otherwise it would not be American. We are informed that the contractors were in such a hurry to get to work, that many buildings have had to be pulled down, because their foundations were insufficient. It is not to be expected that the Chicago Fair will come near the recent French Exposition as an artistic display.

The French alone, among modern nations, seem to have the artistic sense thoroughly developed, and the city on Lake Michigan has little chance of providing visitors with the delightful artistic treat, either in general arrangements or in details, that the ancient city on the Seine afforded to an admiring world three years ago. The exhibition in Philadelphia in 1876 was, from an artistic point of view, an entire failure, and all but a financial fiasco. The American Exhibition in London a few years ago was a dismal failure, and was only saved from bankruptcy by the timely assistance of Buffalo Bill and his cowboys and Indians, whom the Londoners flocked to see, while they ignored the exhibition of which it was a part. We are, however, promised the tallest tower on the surface of the earth, and any amount of relics. It is a curious fact that nations seem to delight in ruins and relics in the inverse ratio of their age. The World's Fair Committee would have liked to secure the Colosseum as an attraction, but the Italian Government would not listen to the proposition. Nothing discouraged, commissioners have ransacked earth, air, and water for relics of Columbus. It is true that most of them are not authentic, and that they were unable to discover the egg which Columbus made stand upon its end. But they have found the anchor which Columbus used on his first visit to the New World. No one seems to have had the remotest idea that this particular anchor was lying in the mud on the coast of Hayti, until a Yankee Colonel recently brought it to light. The evidence of its authenticity would not satisfy an ordinary jury, and we have the equally valuable evidence of Mark Twain that his ancestor climbed down the chain and stole this identical anchor. Two bells which belonged to Columbus have also been discovered in a rather uncanny fashion. One was found in La Vega, San Domingo. A fig tree happened to be cut down, and embedded in the fig tree was a bell. On this bell was inscribed the letter "F." "Clearly," said the American commissioner, "this was a present from King Ferdinand to Columbus." Queen Isabella, not to be outdone in generosity by her spouse, also presented Columbus with a bell having her initial engraved upon it. According to its present owners, she took it from the Alhambra, and Columbus hung it up in a church in one of the Bahamas. Some pirates captured the church and annexed the bell. By some unexplained circumstances, it came recently into the possession of the African Methodist Episcopal Church of Haleyville, and the colored deacons who run that establishment are now offering it, for a consideration of course, to the exhibition authorities, where it will no doubt prove a source of attraction to countless visitors. It is sad to relate that the African Methodist Episcopal Church of Haleyville is not thriving as it deserves, and that a mortgage of 190 dols. is pressing down the church. Fearing that the mortgagee might foreclose and seize the building, the deacons have not hung the bell in the church, but one of them keeps it in his cupboard, and brings it out on state occasions. However, in spite of these and similar harmless vagaries, the World's Fair at Chicago will be a notable and colossal affair, and manufacturers and producers who send their goods wisely will probably be rewarded by finding a market in other countries than America, and perhaps there, if we, like Canada, should enter into some reciprocity arrangement.

THE "LINK" LINE IN DUBLIN.—In the report of the Cork Chamber of Commerce for the past year, we find the following :—The Council are glad to observe that the proposed link line between Kingstown and Kingsbridge, of which so little has been lately heard, is again showing signs of life. They have always considered this line as the best for the interests of Cork and the South of Ireland, and they trust that the Great Southern and Western Railway Company, who would derive such solid advantage from its construction, will do all in their power to urge it forward.

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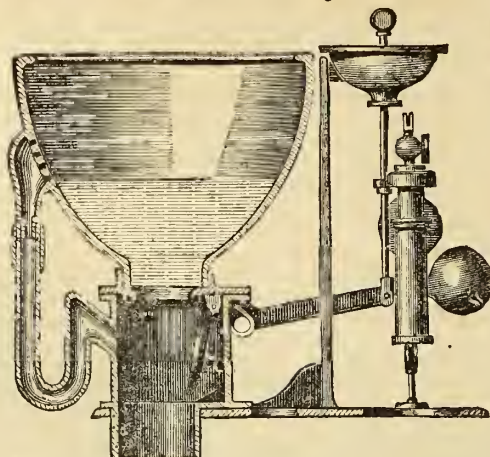
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VOL. XXXIV.—No. 772.

THE TYPHOID EPIDEMIC.

AN exhaustive statement concerning the epidemic of Typhoid in the city, prepared by Mr. W. R. Maguire, T.C. (Member), has been printed in pamphlet form, by order of the Public Health Committee of the Corporation. It was submitted at an adjourned monthly meeting of the Corporation on Monday last, together with a report thereon, by the Borough Surveyor (Mr. Spencer Hart, C.E.).

For the present we must content ourselves (owing to pressure on our space) with giving some of the important facts laid before the public by Mr. Maguire, whose "Statement," in its entirety, should be widely circulated at the present time:—

In the published Report upon the State of Public Health, November 24th, 1891, Sir Charles Cameron stated with that candour which not only does him high honour, but compels full reliance on all his statements as a public officer—"That he cannot satisfactorily account for the prevalence of typhoid fever in Dublin at present," and "that he can no more account for the increase of typhoid fever in Dublin, than sanitarians have been able to explain why, in the late months of the year, this disease assumes epidemic proportions throughout large portions of the world."

I conceive, therefore, that, although a new member of the Public Health Committee, it becomes our individual duty as members to bring to the assistance of this committee and of our Medical Officer any suggestions that may even in a small measure tend, if acted upon, to a reduction in the number of cases of typhoid fever—that admittedly preventible disease which has baffled scientists and sanitarians. Climate does not seem to influence this disease, for it occurs in all climates and in all parts of the world.

In order that we may form a just opinion of the best means for preventing typhoid epidemics, we must first enquire, from the authorities competent to inform us, what typhoid or enteric fever really is. Sir Charles Cameron clearly describes typhoid fever as "distinctly a germ disease, caused by specific germs which exist in the infected soil, and ascend from the soil into the atmosphere at some seasons in greater numbers than in others." These germs are believed to be specific microscopic vegetable growths, bacilli, of a rod-like form, developing, when in active vitality, "resting spores" or seeds, which are surrounded by a protective film, easily wafted about, and able to resist changes of atmospheric conditions for many months, until a suitable season arrives for their development; they are believed to increase in the air of infected sewers and elsewhere, in warm, dry, calm weather. Cold, wet, stormy seasons are unfavourable to the spread of typhoid; but warm, damp weather predisposes to the disease. Outbreaks have been traced in France and England to times of rain-floods. . . .

[Extracts are given from Dr. J. W.

Moore's work on "Eruptive and Continued Fevers," and the conclusions arrived at by him are quoted, viz.:—]

1. Enteric fever (typhoid) is either an endemic disease (i.e., arising among the people), or its epidemics are circumscribed and local. 2. It is most prevalent in autumn, and after warm weather. 3. It is independent of overcrowding, and attacks rich and poor indiscriminately. 4. It sometimes arises apparently independently of a previous case, in the presence of fecal and perhaps other forms of organic matter in which presumably the "resting spores" of its *contagium vivum* have lurked. 5. It may be communicated by the sick to persons in health, but even then the poison is not, like small-pox, given off from the body in a virulent form, but is developed by the decomposition of the excreta after its discharge. 6. Consequently, an outbreak of enteric fever implies poisoning of air, drinking water, milk or other ingesta, with decomposing excrement.

As to the specific causes of typhoid fever in Dublin, our own common sense, experience, and all reliable evidence, tends to prove our Vartry water supply one of the purest in the world, ranking above the Loch Katrine water, of which Glasgow is so justly proud; for our reservoir at Roundwood, in a pure mountain district, 700 ft. over sea level, is free from the tourist traffic and from the pollution of discharges ejected from crowded steamers such as ply on Loch Katrine, as well as from the numerous villa population which surround the shores of the Scotch loch. . . . The extreme purity of the Vartry water constitutes a special source of danger when the wholesome Bye-laws of the Waterworks authorities are evaded. Pure soft waters absorb atmospheric and other impurities with special avidity, where hard waters are capable of resisting contamination. I can personally vouch that, contrary to the Bye-laws—hundreds, and I do not think I would be exaggerating to say thousands—of water-cisterns, and not all of them of old date, are at present used in city and suburbs to store Vartry water exposed to foul air, sometimes to the foulest infected air possible: this polluted water is then used for drinking and potable purposes. This danger often arises from the desire of the householders to save the money which a proper re-arrangement of the water-pipes and fittings, in accordance with the Bye-laws, would entail upon them. I would recommend that this danger to the public health should be vigorously attacked and eradicated; that, if necessary for this result, the Waterworks authorities should increase or strengthen their staff of inspectors, and if they could only succeed in securing the services of some skilled plumbers, who were specially fitted and trained as sanitary inspectors, these defects could be traced by a house-to-house inspection, quietly, but perseveringly carried on until the evils pointed out were at an end. I admit that men qualified for such a position of public trust would be difficult to obtain, unless the authorities were prepared to offer such a salary as would induce first-class men to give up a well-paid trade to accept service under a public body; but a first-class fully qualified plumbing inspector would be a valuable servant for the citizens. . . .

Dr. Brouardel, the eminent French physician and sanitarian, has shown that in France 80 per cent. of the cases of

typhoid fever investigated by him were traced to polluted drinking-water. It has been shown also that the introduction of pure spring water to Vienna had the effect of almost entirely banishing typhoid fever, which had been endemic there. Therefore, as drinking-water is the first likely source of typhoid, I have referred specially to the purity of our Vartry water supply, as delivered to the citizens by the Water Works, day and night, in constant flow under pressure. I have not myself as yet been able to examine the arrangements provided for the security of the Roundwood Reservoir, for I have full confidence in our Borough Surveyor; but there are other waters in Dublin to which typhoid fever may be traced. I refer to the free underground waters in polluted malarial condition, and to them my experience and reason point me as one of the chief carriers and cultivators of the typhoid fever.

Trinity College Well had once a great reputation for purity; but one year before the Vartry was introduced, nearly all the students drinking this well water took the typhoid fever, and four died. When the Vartry was supplied, this well was closed, and soon the ground water rose in the College, and affected the lower rooms so seriously, that a special pumping-station had to be erected, and about £300 a-year is spent in continuous pumping, to lower the level of the underground waters.

In Liverpool, in 1866, cholera and typhoid occurred chiefly in cellars where the ground waters had risen in consequence of a new public water supply (as in Dublin), allowing the wells to overflow, and where the places along the river (as in Dublin) were saturated at every tide with polluted underground waters.

Mr. Baldwin Latham has drawn attention to a varying ebb and flow of underground waters. It is caused by the rise and fall of the tides for a certain distance inland from the sea and tidal river, and it is caused beyond that tidal influence chiefly by the variations of rainfall, temperature, and meteorological conditions. It is much to be regretted that we have no reliable observations of this rise and fall of underground waters in Dublin, taken at points within the tidal influence of the river, and also at points beyond that influence at higher levels, for I believe it would be found, as elsewhere, to synchronise with the rise and fall of typhoid fever.

As I understand this committee gave authority for such investigation to be carried out, I hope that it may be at once commenced, and carried on for a series of years, the observer to be instructed also to note the variations of the underground temperature at various depths to 10 ft.

Dublin is honeycombed with old, disused wells; some I have known used as cesspools for drainage. The underground waters flow from well to well in steady movement towards river and sea. The water in the well of one house to-day has to-morrow passed on into another. If it carries with it, as I think I have shown is probable, the germs of typhoid, we can see how easily typhoid spreads. Cholera and other diseases were much more fatal when citizens were dependent on these waters for drink. It has been shown that these diseases still incline to follow the courses of old streams and river beds in epidemic visitations. Typhoid, however, remains among us almost endemic with autumnal increase yet unexplained.

HISTORY OF THE CELTS.

THE Celtæ or Celts were at first settled in Asia. One tribe of this people advanced to Asia Minor, and there they became formidable, under the name of Galatians. Others entered Thrace and Greece.

Their migrations towards Europe took place in ages very remote, and there numbers of them spread over various countries. They formed a large division of ancient Gaul, which formerly contained that whole territory between the Pyrennees, the Alps, the Rhine, and the ocean. The Celts called themselves Gael or Gales, and hence the Romans sometimes styled their country Celtica or Galatia.¹

When they first entered Spain, has not been recorded; but there they found an aboriginal race, called the Iberians, whom they conquered. With these, however, a fusion took place; and afterwards the descendants of this alliance were distinguished as Celtiberians. They dwelt chiefly in that territory along the Iberus, in the north-eastern parts of Spain. They were divided into six tribes:—The Bellones, the Arevaci, the Peludones, north of the Durus; and the Lusones, the Belli, and the Dittbi, more to the south. The Celtiberians were the most powerful among the ancient inhabitants of Spain,² and they were long formidable to the Romans. At length, in the Sertorian war, they were subjugated, and afterwards they adopted the manners, dress, and language of their conquerors.

We are told, that while Tarquin the Old reigned at Rome—about 600 years before the Christian era—the Gaulish Celts were subject to the Bituriges, who gave them a king.³ Under the government of Ambigatus, the whole of Gaul became prosperous; and the population so greatly increased, that, when advanced in years, he urged upon the sons of his sister, named Bellovesus and Sigovesus, who were brave and enterprising young men, to seek out other distant lands, and to take with them so many adventurous spirits as desired to follow their fortunes.⁴ Upon their adoption of this advice, Bellovesus resolved on directing his course towards Italy, while Sigovesus was directed by auguries to seek the wild Hercynian Forests as the territory destined for his colonisation. Accordingly both began to raise numerous troops, both of horse and foot, from the teeming and warlike populations around them, so that in a short time they were able to organise their respective expeditions. Under the conduct of Bellovesus, great numbers of the Boii, and contingents from almost all of the other Celtic tribes, crossed the Rhine, entering Dauphny and Provence, afterwards penetrated into Italy, between the mountains of Genevre and Cenis, where the Heturians or Tyrrheuians dwelt. Defeated on the banks of the Ticin in a battle, those people fled beyond the Appenines, and settled in that country, which has been ever since known as Heturia or Tuscany. Bellovesus then took possession of Northern Italy, and parcelled out its districts among the different Celtic nations that composed his army.⁵

Afterwards new hordes of Gauls followed in the wake of Bellovesus, and established themselves under his protection in the territories of Etruria and Liguria, penetrating even to the Appenines. Thenceforth the Romans were accustomed to call the northern parts of the present kingdom of Italy by the designation of Gallia Cisalpina.

As known to the Romans, about the beginning of the Christian era, Gaul was divided into three large territories, and their inhabitants were called respectively, the Belgæ, the Aquitani, and the Celtæ, or Celts, in their own language; but by the Romans these latter were most distinctively denominated Gauls.⁶ Each nation was ruled by a civil and by a military chief. Both of these acceded to power, by popular election. Living in the country, and in villages, towns, and cities, the Gauls were recognised by their tribes, nations, and cantons. All these people confederated against the common enemy, in times of war, especially when a great effort had been made, as in the time of Julius Cæsar, to destroy their national independence. All the male members shared the family property equally, except that the youngest being considered the most helpless, received, in addition to his portion, the paternal dwelling.

The Gallic women were remarkable for their natural grace and beauty, for their fine figures, for their chastity and virtue. In addition, they possessed remarkable physical vigour, being distinguished for their robust symmetry and tall stature, as also for their remarkable courage.⁷ The Gauls had power of life and death over their wives and children.⁸ Females could own no land. It was allotted to none, but such as could defend its tenure by the sword.

Within the measurable range of historic research, the Gauls dwelt in convenient but clay-built houses of a round or oval form, with high-pointed roofs of thatch, underset with oaken rafters.⁹ They had brought from Egypt the horse, the sheep, and the ox. They were accustomed to rear in their forests large herds of swine, and they lived chiefly on their flesh, salted or fresh, while other domesticated or wild animals were used as food.¹⁰ Milk, heer, and metheglin served them for drink. They likewise cultivated crops of wheat and rye, the seeds of which grains they had imported from their original soil, which was in the East.

The only class of the male population exempt from military service or taxation was the Druids, who were clothed in white. These devoted themselves to the study of some occult theology. Astronomy is said to have been a subject of consideration for them. The education of youth, and the administration of justice, were confided to them, while they were regarded as judges in public and private cases, which were submitted for their decision. Their priests were clothed in green, offered up the sacrifices, and devoted themselves to the healing of diseases. The bards, clothed in blue, sang in rhythmic words and in florid metaphors or similes, legends of former times, and the exploits of

heroes, in a style of hyperbole, and often to the music of a lyre.¹¹

(To be continued.)

THE NEW TOWN HALL, NEWRY.

MESSRS. COLLEN REFUSE TO PROCEED WITH THE WORK—NEW TENDERS CALLED FOR.

At the monthly meeting of the Town Commissioners, on the 1st inst., the differences between the Town Commissioners and the contractors for the building of the new Town Hall again came up for discussion.

Mr. Carey (Town Solicitor) said he had received the following letter from Messrs. Collen:—

29th January, 1892.

SIR,—Referring to our interview on Wednesday last, we have further considered the form of the draft agreement submitted to us by Mr. Carey; and although we consider clauses 32 and 33 and some other minor matters very objectionable, and not framed in the manner which, in fairness, we have a right to expect, still these are matters which could be arranged.

However, with reference to clause 34, which deals with the responsibility of the contractor as to the inability or failure of the bridge to carry the buildings, through subsidence or otherwise, we shall not on any terms agree to it; and unless that clause is entirely expunged from the agreement, we shall decline to sign it. It is a provision entailing such serious heavy and unusual liability, that we did not anticipate its introduction into the conditions of contract prior to our tender, and, as a matter of fact, we never saw the conditions, and our tender made no reference thereto, nor did you when accepting same. COLLEN BROTHERS.

R. H. Doherty, Town Clerk, Newry.

In reply to that he had forwarded a letter, of which the following is the text:—

30th January, 1892.

SIR,—Mr. Doherty has handed me your letter to him of the 29th inst., in which you state you will not on any terms agree to clause 34 of the agreement, and that, unless it is expunged, you will not sign it.

I shall, of course, bring the matter before the Commissioners at their meeting on Monday next, but I do not believe they will consent to strike out the clause, nor could I advise them to do so.

You cannot well get over the advertisement inviting the tenders, and under which you tendered, and from which I now give you the following extract—"Tenders are invited for the erection of above building in accordance with the drawings, specification, and conditions of contract, which can be seen at the office of the architect, Mr. William Batt."

I think you stated at the meeting of the Works Committee on Tuesday last that you did not read the Conditions of Contract; but surely that was your own fault, and not that of the Commissioners. The question then may be asked—Why did you tender at all, if you did not know the conditions under which you were tendering? And I think you will agree with me that it would not be fair to the other contractors who tendered, and who presumably read these conditions, to alter them now in any way. THOMAS CAREY.

Messrs. Collen Bros., Portadown.

Mr. Carey—The question for you to decide now is, whether you will allow these letters to get publicity in the Press, because, if you have again to advertise for men, it might create some difficulty, perhaps, with other contractors.

Mr. Dowdall—Have you got any reply from Messrs. Collen to your letter of the 30th ult?

Mr. Carey said he had not, as there was not time for an answer to be received.

Mr. Rice—Whose tender was the next lowest to Messrs. Collen's?

Mr. Doherty (Town Clerk)—Messrs. Dickson and Campbell, Belfast.

Mr. Rice—What was the amount of Messrs. Collen's tender? £6,632.

Mr. Treanor—And what is Messrs. Dickson and Campbell's? £6,850.

Mr. Renshaw—What position have the

1 See "The Popular Encyclopedia; or Conversations Lexicon," vol. ii, sub voce CELTÆ, p. 120. Glasgow, 1841.

2 See Edward Gibbon's "History of the Decline and Fall of the Roman Empire," vol. i, cap. i, p. 156. Edition of William Smith, LL.D.

3 See Titus Livius, "Historia Romana," liv. v., cap. 34.

4 See Duplex's "Mémoires des Gaules," liv. ii., chap. 26.

5 See N. Hooke's "Roman History; from the Building of Rome to the Ruin of the Commonwealth," vol. i, book ii, chap. xxxviii, pp. 233, 234, n (2).

6 See Julius Cæsar, "De Bello Gallico," lib. i., cap. i.

7 See Ammianus Marcellinus, in "Rerum Gestarum Libri xxxi.," lib. xv., cap. xxi. This Latin writer lived to the close of the fourth century.

8 Julius Cæsar, "De Bello Gallico," lib. vi., cap. xix.

9 See Henri Martin's "Histoire de France depuis les Temps les plus reculés jusqu'en 1789," tome i., liv. ii., p. 32.

10 According to Strabo, who was born about sixty years before the Christian era, and who wrote a valuable work in Greek, Γεωγραφικῶν Βιβλίων γ', in seventeen books. This work has been translated into Latin. See lib. iv.

11 Such is the statement of Diodorus Siculus, a celebrated and judicious Greek historian, who flourished about fifty years before the Christian era, and who carefully studied historic documents and traditions regarding the civilised and barbarous peoples of his period. See lib. vi., cap. xxxi.

Messrs. Collen placed themselves in by this refusal? Are they in any way liable to the Commissioners?

Mr. Carey—That is a nice point, and I will look into it. The Commissioners are not letting them down easily by the letter I wrote, and I will consider the matter as to whether we will hold the Messrs. Collen to their contract.

Mr. Renshaw—If we advertise for new tenders, and if they are higher than Messrs. Collen's, can we hold them liable for the difference between their contract and the contract which we may accept?

Several of the Commissioners considered that they could.

Mr. M'Cartan—Sure we can give this contract to the lowest local tender. I think that it would be the better way, and take Collen Brothers at their word.

Mr. Rice—Would Collen Brothers be responsible if they did not sign the bond?

Mr. Carey considered that their act in tendering for the contract, and accepting it, was sufficient to hold them responsible.

In reply to a Commissioner,

Mr. Doherty said that Mr. Mahood's tender was £7,177, making a difference between his and Collen's tender of £545.

Mr. M'Cartan—Whose is the lowest local tender? Mr. Mahood's.

Mr. M'Cartan—I think it would be a great benefit to the town if we accepted Mr. Mahood's tender. In that case all the wages would be spent in town. In Collen's case the work would be done in Portadown, and there was a probability that no local tradesman would derive one penny of wages from them. Everything considered, I think it would be well to take Collen Brothers at their word, and give the contract to Mr. Mahood, at his estimate of £7,177.

Mr. Rice—What is the difference between Mr. Mahood's tender? About £500.

Mr. Renshaw—Would that course not be treating the other contractors who had tendered unfairly?

Mr. M'Cartan—No, it would not be unfair. The advertisement asking for tenders reads thus—"The lowest or any tender not necessarily accepted." Therefore, we have a right to give it to whom we please.

Mr. Renshaw—Would it not be better to advertise for new tenders?

Mr. M'Cartan—There is no necessity.

Mr. Carey said that whether they gave it to the next lowest tender or any tender, or again advertised, was merely a matter of discretion.

Mr. M'Cartan—There is only a difference of about £300 between Messrs. Dickson and Campbell and Mr. Mahood. I think even with that Mr. Mahood should get the contract.

The Chairman was of the same opinion.

Mr. M'Cartan—In order to test the matter, I beg to move that Mr. Mahood be asked to take the contract of the building of the hall, at the amount of the tender he sent in.

Mr. Dowdall—If the matter were re-advertised, could we not confine the tenders to the local men?

A number of the Commissioners said that such a course would be impracticable.

Mr. Rice—I second Mr. M'Cartan's motion.

Mr. Carey—I would suggest that the matter should be allowed to stand over for a week, and give Collen Brothers an opportunity of replying to my letter, so that we might see whether they would definitely refuse to carry out the terms of their contract or not.

Mr. M'Cartan—Then I allow my motion to drop for the present, and I propose that this meeting be adjourned until this day week, when we can finally decide the question.

Mr. Nicholson seconded this motion.

At the opening of the meeting on 8th inst., it was announced that no communication had been received from Messrs. Collen, nor from the architect; and the discussion from last day was resumed.

Mr. Nicholson—Would there be any use in advertising, now that it is our intention to give the contract to a local man? I don't believe the local contractors would change

the amounts of their contracts. If the advertisements are again, issued that only means time lost.

Mr. Carey—The act expressly states that, in all matters over £100, tenders must be advertised for. Now that Collen Brothers have refused to carry out the contract, you can look upon the matter as if tenders had never been asked for.

Mr. M'Cartan—The man whom we selected to build the hall has refused to fulfil his contract, and now we can give the work to anyone we like. The reason I do not want the matter re-advertised is to save further delay.

Mr. Carey then read the act further, from which it appeared that the Commissioners were "not bound to accept the lowest or any tender, but could accept the one which they thought would prove most advantageous to the town."

Mr. Treanor—Would it not be perfectly legal for us to decide, without again advertising?

Mr. Carey—I think it would be much safer to advertise. You might, perhaps, get the contract done for £500 less than any of the present tenders.

Mr. Todd—Supposing you sued the Messrs. Collen for the difference between their contract and the one that may be accepted, they might try to escape by reason of your not having advertised in this instance.

Mr. Carey—I don't think you could well hind the Messrs. Collen Brothers to their contract, as they say they did not read the conditions.

Mr. Todd—But that is their own fault.

Mr. M'Cartan said the Commissioners were trying to carry out the spirit of the act which Mr. Carey had read. They wished to adopt the course that would be most advantageous to the town.

Mr. Renshaw—A local contractor would be the most advantageous to the town.

Mr. M'Cartan—To test this matter, I propose that Mr. Mahood's tender for £7,177 be accepted.

Mr. Rice seconded the motion.

Mr. Nicholson said he begged to move as an amendment that Mr. Wheelan should get the contract. As far as he personally was concerned, he did not care which of the contractors got it, but he was sure they would all wish to see the Town Hall erected in the most permanent manner, and by a master builder. They all knew that Mr. Wheelan constructed his work of the best material, and always went according to the plans and specifications. The matter was a very serious one, and it rested with the Commissioners for decision. As that was so, the matter was an important one, and the building of the hall should be given to the best man. Mr. Wheelan was a builder of the highest ability, and he thought it was he who should get the contract.

Mr. Dowdall said that the Board were very anxious that a local man should get it. It would not be fair to re-advertise asking for tenders, and then eschew outsiders by giving the preference to local men. Another reason why they should not advertise, but give it to Mr. Mahood, was this—that Mr. Batt stated that the Belfast men told him they would not accept the contract, as they had the same objection to it as the Messrs. Collen. Mr. Treanor said that Mr. Mahood was perfectly ready to accept the responsibility of the bridge, and they had the opinion of their eminent engineer that the bridge was quite safe.

Mr. Fowler said he did not intend to take any side in the question, but wished merely to make a few observations. He thought they, out of respect to what Mr. Carey had told them, should give the subject every consideration. He thought Mr. Carey should be instructed to procure counsel's opinion as to how the Messrs. Collen stood in relation to the Commissioners. Collen Brothers had accepted the contract, and done everything that was to be done, except to sign the bond. In addition, they had made a fool of the townspeople of Newry by protracting a work

which everybody would like to see finished. He thought it was the duty of the board to follow the advice of Mr. Carey and re-advertise, and then the board could decide the whole matter. If we re-advertise it, Mr. Wheelan may reduce his tender by £500.

Mr. M'Cartan—I have good authority for saying that the contractors will not change their figures. I ask you, Mr. Chairman, to put my motion to the meeting—that the contract be given to Mr. Mahood, at £7,177.

Mr. Fowler—I beg to move that the matter be re-advertised.

Mr. M'Cartan—I rise to a point of order. You must decide one motion first.

Mr. Fowler—Then I move as an amendment "That this meeting adjourns for a fortnight, and that in the meantime we issue advertisements for new tenders."

The Town Clerk said there were a motion and two amendments. He would take the polling on the resolution, that Mr. Mahood get the contract, and on the first amendment, which had been proposed by Mr. Nicholson and seconded by Mr. Small, in favour of Mr. Wheelan.

A poll having been taken, there voted:—

For the motion, 10; for the amendment, 2.

The motion, and the second amendment anent the adjournment and re-advertising were then polled for, with the result that there voted:—

For the motion, 6; for the second amendment, 7.

The Chairman then declared the second amendment carried by a majority of one.

Mr. Savage—Are we to understand that the advertisement will be issued at once?

Town Clerk—I suppose they will appear in to-morrow's papers.

On the 10th inst., Messrs. Collen Bros. wrote to the local *Telegraph*:—

SIR,—In your report of the meeting of the Town Commissioners of the 8th instant, we observe that our last letter to Mr. Carey, dated the 2nd inst., does not appear to have been read to the Board. It is as follows:—

"We duly received your favour of 30th ult., and in reply we beg to say that we have nothing to add to our letter to Mr. Doherty of 29th ult."

With reference to your observation, that it would not be fair to the other contractors to make any alterations, we shall be surprised if any of the contractors who tendered will sign the agreement in its present form.

With respect to Messrs. Collen's last observation, we (*Telegraph*) can only say that we hope the other contractors were more business-like than the Messrs. Collen, and knew what was in the conditions before they tendered. If everybody acted like the Portadown firm, public bodies would require to adopt some course of procedure which would ensure that, when they accepted a tender, there would be some reason to believe that the person tendering would proceed with the work. Perhaps they will take the precaution in future.

AN IRISH-MADE ORGAN IN NEW ZEALAND.

THE following letter has been received by Messrs. Telford, organ builders, of this city, showing how satisfactory the instrument which they sent to New Zealand last autumn, has proved:—

NEW ORGAN ERECTED IN THE CONGREGATIONAL CHURCH, WELLINGTON.

December 29th, 1891.

SIRS,—I had the pleasure of opening your organ at the Congregational Church last week, and I write a few words to tell you how pleased I am with the instrument. It is one of the very best organs of its size that I ever played—admirable alike in tone and touch. I can sincerely compliment you on the voicing, the soft stops being particularly charming in quality, I am not easily satisfied in this matter, as my own organ at the Cathedral is a fine instrument in comparison with which most others suffer, not so yours.

ROBERT PARKER,
Organist, St. Paul's Cathedral,
Wellington, New Zealand.

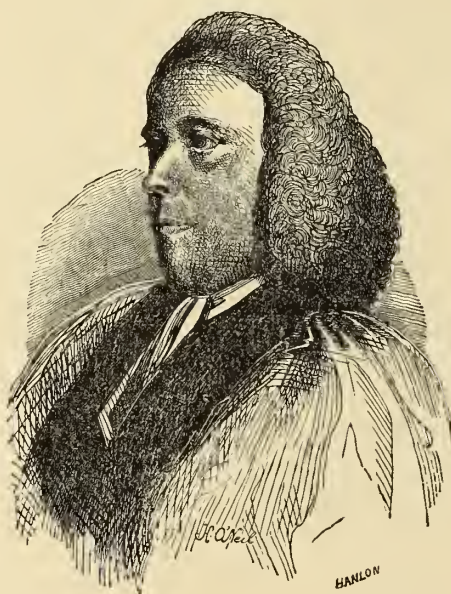
BISHOP POCOCKE,
AND
THE CATHEDRAL OF ST. CANICE,
KILKENNY.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In publishing a likeness of Bishop Pococke, and some notes referring to the works carried on at the Cathedral during this bishop's time, a very short memoir of him may not be out of place. With reference to the likeness: the drawing upon the block was made by the late Henry O'Neill, most probably from the portrait of the bishop preserved in the office of the Incorporated Society, Harcourt-street, of which there is a full-sized copy in the Pococke College, Kilkenny. The drawing and the engraving of the block were made at the expense of the Rev. James Graves, and, no doubt, the woodcut was intended to be printed as one of the illustrations of a work referred to by Mr. Graves in the history of the Cathedral, as "The Proposed History of the See of Ossory."

Pococke found his Cathedral in a most ruinous condition, being totally neglected by his predecessors; its galleries decaying, its roof tumbling down, its monuments broken and scattered about." This prelate was, however, scarcely installed when he commenced the work of renovation. By an entry in the Chapter Books, of the 11th June, 1756, we learn that the bishop having communicated to the dean and chapter a design for improving and adorning the inside of the choir, his lordship having subscribed fifty guineas, the thanks of that body were voted to him. And on the 30th of July following, they agreed to give thirty guineas annually until the work was completed. "With that love of religion and decency," writes Ledwich, "which strongly marked his character, he zealously set about its (the Cathedral's) reparation; he warmly solicited subscriptions, purchased every necessary material at the best rate, in person superintended the workmen, and that often

are all of a fine dark-grained oak,³ but, being carved in the Ionic style, there is a sad want of harmony between them and the architecture of the fabric. From an entry in the Chapter Books (A.D. 1762), it appears that the bishop was permitted to dispose of the materials of the "old choir" as he should think fit; but as these had been put up subsequently to the restoration,⁴ it is probable their loss is not much to be deplored. We learn from the Chapter Books that Pococke did not confine himself to the remodelling of the choir; he also built a colonnade, reaching from the north transept door to the palace garden; by an entry in the Chapter Books we find that this work was not commenced until after 30th May, 1758, on which day permission was granted to the bishop to erect it. This colonnade is a handsome structure, in the Grecian Doric style,⁵ but it completely disfigures the gable of the north transept, very much concealing the fine door from view, and hiding the lower part of the



BISHOP POCOCKE.

Richard Pococke, D.D., was born in 1704, at Southampton, and educated at Corpus Christi College, Oxford. In 1737 he travelled in the East, returning in 1742. The year following he published the first volume of his travels, and in 1745 the second volume, both in folio, and rich in description, particularly of the curiosities in Egypt and Palestine. He was made Precentor of Waterford Cathedral in 1744, and in 1756 raised to the See of Ossory, whence he was translated, in 1765, to Meath, but died suddenly in September of the same year. His MSS. are in the British Museum.

For an account of the repairs and works carried out by him at the Cathedral of St. Canice, I am indebted to the history of that church by the Rev. James Graves¹ and John G. A. Prim.² Ledwich says that "Bishop

from four o'clock in the morning, beautified and adorned it throughout, and left a memorial of his piety and regard for his episcopal church, which the City of Kilkenny and the diocese of Ossory still gratefully remember."

From this panegyric of Ledwich's, no right-minded person will dissent; and, if the discriminating eye discovers many solecisms and incongruities in the works and repairs which Bishop Pococke effected, it must be remembered that they were the faults not so much of the man as of the age; and that, probably, but for him this venerable Cathedral would now be a ruin. Had he lived in our day, his appreciation of the architecture of the building would, no doubt, put to shame the apathy of those who, while they see without regret the decay of the fabric, look with coldness on every suggestion which does not originate from themselves. The choir was, at this period, fitted up as it now (A.D. 1857) appears. The episcopal throne, prebendal stalls, galleries, pews, &c.,

windows by its roof; indeed Pococke, whether from want of funds to defray the cost of glazing them, or from want of taste to appreciate the beautiful proportions of the original design, shortened all the principal windows considerably. Thus, at the 4th of September, 1762, the following entry appears in the Chapter Books:—"Whereas the bishop has undertaken the direction of putting the Cathedral into order, and designs to shut up some of the windows and open others: It is ordered, that his lordship make

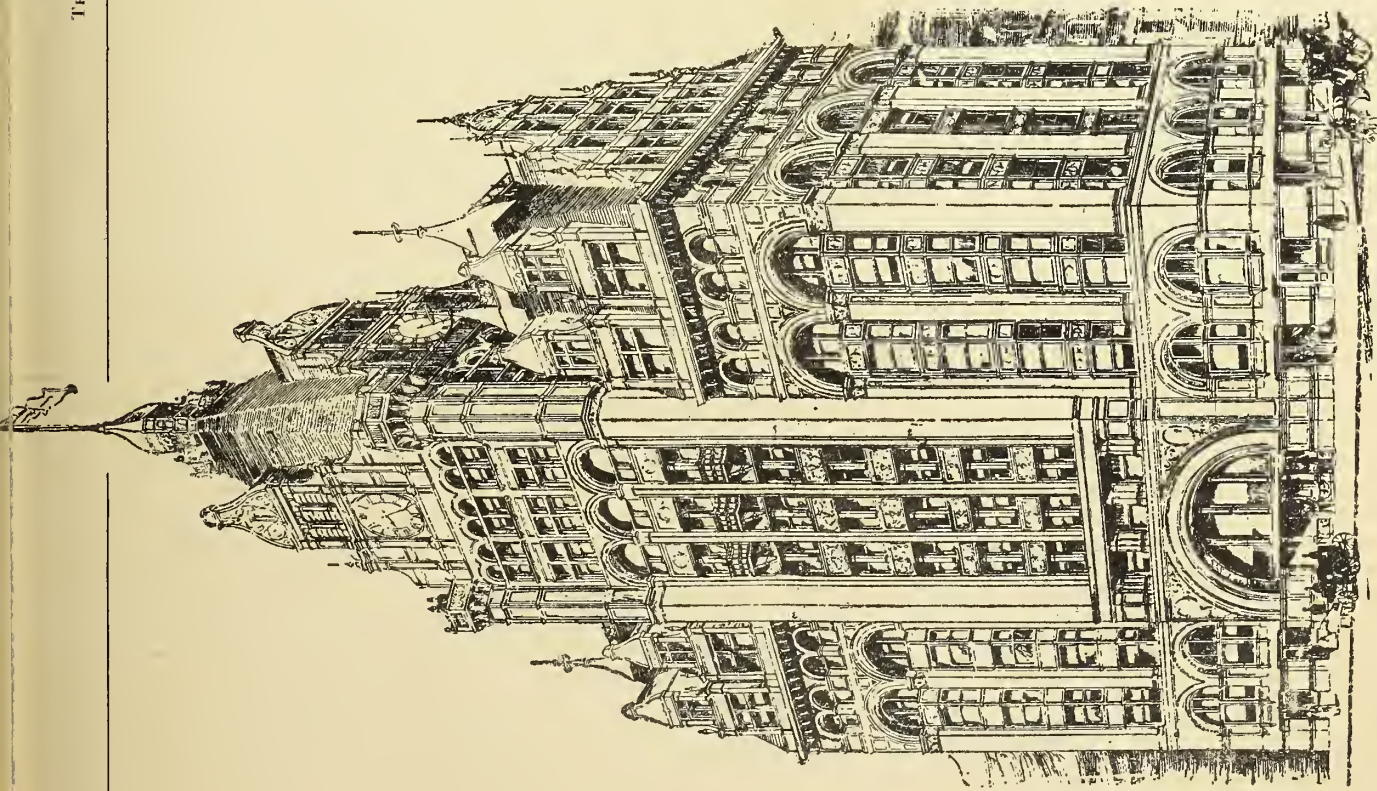
³ A.D. 1863.—All these fittings had to be removed when the restoration of the Cathedral was commenced. The pillars supporting the galleries and the entablature upon which the front of the galleries rested, were of the Ionic order. Some of the pillars, and other portions of the fittings, were presented by the dean and chapter to the Rev. James Graves, who skilfully applied them in the improvement of the interior of his church at Inisnag. The oak used in these fittings was, I think, of foreign growth, and much lighter as regards weight than an equal quantity of Irish oak (e.g. part of an ancient table); it was also much more easily wrought.

⁴ The restoration here alluded to was that commenced about the year 1660, and continued for many years, as described in the History of the Cathedral.

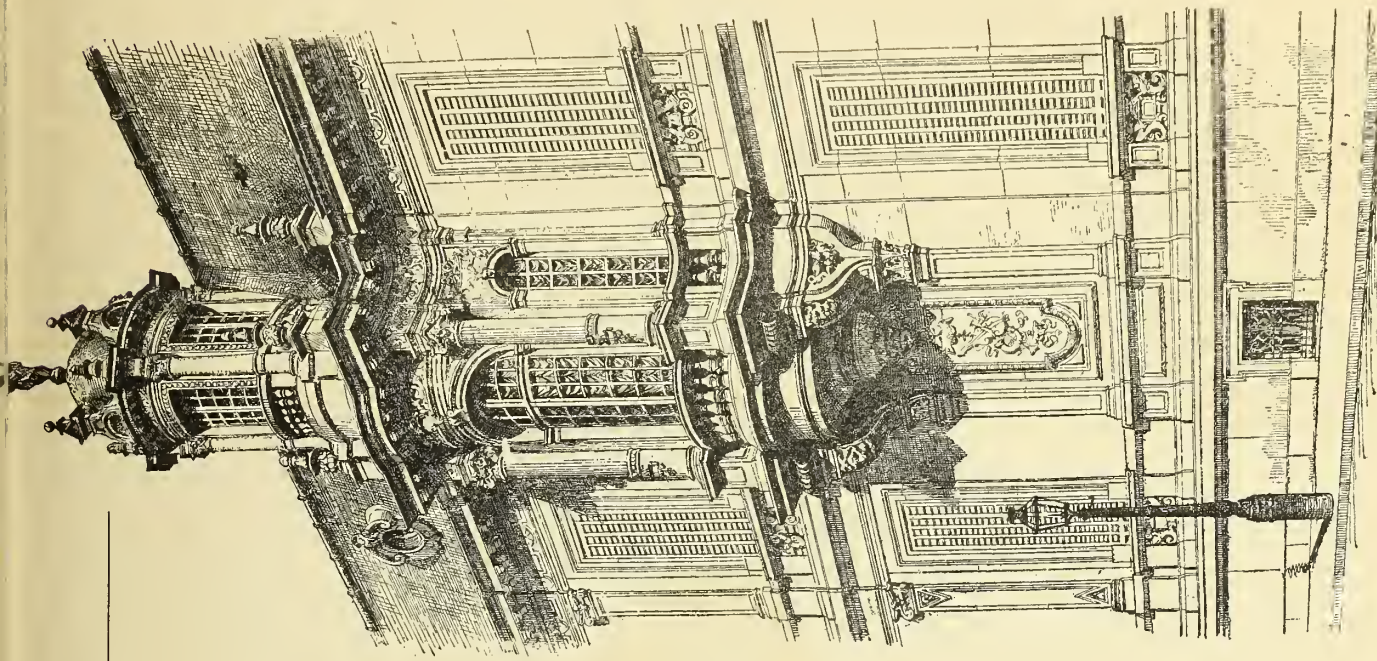
⁵ This heavy-looking structure was very properly removed in 1863; its only use at any time was to afford shelter from rain to the bishop and his family whilst passing to and from the church to the palace.

¹ Died 20th March, 1886; buried in the churchyard of the Cathedral of St. Canice; a very fine Irish cross erected to his memory by his widow.

² Died 2nd November, 1875; a handsome white marble mural monument erected to his memory within the Cathedral by his relatives and friends. Mr. Prim and Mr. Graves are buried near to one another.



THE PABST BUILDING, MILWAUKEE, WISCONSIN.



ORIEL WINDOW OF A PARISIAN RESIDENCE.

such alterations in the windows, at his own expense, as he chooses."

The parish church, a chapel within the Cathedral, owes its repair to the same excellent prelate, by whom also the remaining fragments of the early stained glass were collected and placed in the great west window, where they remained until removed some years since. The ancient monumental effigies and inscribed tombs, some of which Harris saw piled up in the chapel adjoining the chancel on the north, were by Pococke's orders collected, repaired, and arranged, though not all in their original position, or with much care or accuracy; and he employed John O'Phelan—"a learned and ingenious man," who at that time kept a school in Kilkenny, where he taught the Greek, Latin, Irish, and English languages—to copy all the inscriptions existing.⁶ This prelate also covered the Communion table with purple velvet, richly embroidered with gold lace, and placed over it the painting of a Glory, brought by him from Italy, which still remains.⁷

He erected, in the south transept, a place for his Consistorial Court, the material of which is of panelled oak; this has, not many years since, been removed to St. Mary's Chapel, where it now stands. In the Chapter-room the inscription, here given, is engraved on a stone set in the wall over the fireplace, and surmounted by a Gothic moulding taken from some other part of the Cathedral:—

HANC | BASILICAM | VETUSTATE |
LABESCENTEM | RESTITUERUNT |
ORNARUNT | OSSORIENSES |
MDCCLXIII. |

By a black marble slab set in the wall of the north transept, it appears that the subscriptions collected by Bishop Pococke, on his first setting about the work of restoration, were very considerable. This record, having never been previously printed accurately, is given *in extenso* in the History of the Cathedral. Upon a white marble mural tablet set up under the west window of the south transept, is the following epitaph:—

SACRED TO THE MEMORY
OF RICHARD POCOCKE L.L.D.: WHO
FROM THE ARCHDEACONRY OF
DUBLIN, WAS PROMOTED TO THIS
SEE MDCCLVI, AND TRANSLATED TO
THAT OF MEATH MDCCLXV, WHERE
HE DIED SEPTEMBER THE XVTH IN
THE SAME YEAR, HE DISCHARGED
EVERY DUTY OF THE PASTORAL
AND EPISCOPAL OFFICE, WITH
PRUDENCE, VIGILANCE AND
FIDELITY: ADORNING HIS STATION,
WITH UNSHAKEN INTEGRITY OF
HEART AND PURITY OF CONDUCT;
ATTENTIVE TO THE INTEREST OF
RELIGION, HE CAUSED SEVERAL
PAROCHIAL CHURCHES TO BE
REBUILT, WITHIN THIS DIOCESE;
HE PROMOTED AND LIBERALLY
CONTRIBUTED TO THE REPAIR, AND

⁶ O'Phelan made two copies of this MS.; the original was kept by Pococke, and is not now known to exist. The other copy was purchased by Mr. Henry Shee, of Lishtown, and from it was printed, by Dr. Peter Shee, the "Inscriptions on the Tombs in St. Canice." This MS. was in the possession of the late Rev. James Graves; see p. 58, the History of the Cathedral.

⁷ The painting of a Glory here alluded to, was removed from its place at the restoration in 1863. The erection of a reredos and other changes rendering it unsuitable for its former position, it is now preserved in the Chapter-room; the oak frame is a very good piece of carving, and evidently done by the workmen who carved the capitals of the Ionic pillars and the bosses which ornamented the prebendal stalls.

EMBELLISHMENT OF THIS CATHEDRAL CHURCH, THEN UNHAPPILY FALLING INTO DECAY, A ZEALOUS ENCOURAGER OF EVERY USEFUL PUBLIC WORK, ESPECIALLY THE LINEN MANUFACTURE, HE BEQUEATHED A VERY CONSIDERABLE LEGACY, TO THE GOVERNORS OF THE INCORPORATED SOCIETY, FOR PROMOTING THE UNITED INTERESTS OF INDUSTRY AND CHARITY, WITHIN THIS BOROUGH OF ST CANICE.

J. G. ROBERTSON.

ILLUSTRATIONS.

THE PABST BUILDING, MILWAUKEE, ILLINOIS.

THE loftiest and most imposing structure in the State will soon rear its massive walls in this city at the corner of Wisconsin and East Water streets, in the form of Captain Pabst's magnificent office building. This mammoth pile will be thirteen storeys high, its altitude from the pavement to the apex of the tower being 235 ft. The building will be entirely fire-proof, and will be constructed of brown stone, brick, and terracotta. The first main floor will be occupied by the largest capitalised bank in the State. All of the floor below, except that portion needed for the heating and lighting apparatus, will be fitted up in most elaborate style as a restaurant and saloon. The other eleven storeys of the building will be devoted to offices, of which there will be 200. On the first and second floors will be located the safety deposit vaults, which will have every convenience mechanical ingenuity can suggest, and will be superior to those of any other cities of the West. The elevators will be of the most recent designs, and will be very rapid. The architect of the building is H. Beman, of Chicago. It is expected to have the structure completed in May next. Its cost will be about £100,000.

ORIEL WINDOW OF A PARISIAN RESIDENCE.

OUR second illustration is of an oriel window, of a residence on Kleber-avenue, Paris—a design by M. Gaillard, architect, and which has appeared in *La Semaine des Constructeurs*.

THE ART OF PLANNING.*

(Continued from page 26.)

It may seem like insisting on an elementary truism to say that the plan of a building must necessarily be adapted to, and governed by, the exigencies of the site, but the not infrequent violation, or rather neglect, of so obvious a principle justifies me in emphasising its importance. The peculiarities of a site in respect to levels and aspect frequently constitute difficulties that at first sight appear insurmountable, but out of which emanate in skilful hands the happiest results, which otherwise might not have been thought of, or attained. Herein is displayed the skill of the artist: to lay hold on all such adventitious circumstances and hindrances, and conform them to his will, transforming obstacles into mediums for achieving success. The neglect of such opportunities is unpardonable, and betrays the bungler.

Prospect, again, constitutes an important factor in planning. When the right aspect presents the best views, the case is simple; but this is often not the case, and few con-

ditions call for more ingenuity than when the proper aspect is at variance with the prospect that it is desirable to secure. In towns, indeed, aspect and prospect must necessarily, and to a great extent, be subordinated to immovable conditions; but in the country it is different. While, therefore, striving for comfort, convenience, and grace within, never neglect an opportunity of securing the inestimable attraction of a higher than any art loveliness, the prospect of nature and creation. In connection with prospect, let me in passing condemn a practice too much in vogue—the glazing of the upper portions of windows with tinted, stained, or painted glass, sometimes uglier than anything it is intended to obscure from view. Situated as we are in London, the expedient is no doubt attended to with advantages, shutting out hideous objects which one's neighbours are so fond of obtruding, or excluding the impertinent gaze of the too curious; but in the country, where it is frequently adopted, what possible justification can be urged? Is it possible that anything can compensate for the light of the sun, the beauties of nature, or the marvels of the heavens? Never, then, attempt to obscure the contemplation of God's universe by the commonplaces of humanity.

I would say, further, that a plan to be good must be simple. No doubt the arrangement of some buildings is necessarily more elaborate than that of others; but you may take it as an unerring guide, that when you find a plan becoming complicated and confused, you are on the wrong tack. I have seen an artist, after hours of work, wipe from his canvas all he had painted, and then make a fresh start with manifest advantage and no real loss of time; so, when your planning results in complication, your best course is ruthlessly to obliterate what you have done, and begin *de novo*. Nothing will compensate for the absence of simplicity in a plan. This is a golden test which I have never hesitated to apply, and I speak from no inconsiderable experience.

Again, a plan is only good when it is the embodiment of thrift. Much has been said, and more has been written, on the moral aspect of thrift; and it would be easy to enlarge on the advantages of its application, not merely to the life, but also to the artistic work of the student of architecture. I must, however, be content for the present to deal with it in its relation to my subject, and to show that without thrift, both of space and material, a plan cannot properly fulfil its purpose. Thrift is not parsimony any more than liberality is waste. Each space in a plan, be it room, hall, stair, or passage, should be just the size that is necessary for its purpose; if it be less, there is parsimony, for what is inadequate will have to be enlarged hereafter at much more than what would have been the original cost; if it be more, there is waste, for it has involved the expenditure of more capital than was required, and will incur needless labour and consequent cost in maintenance. Take as an illustration a room which has been designed on a scale beyond the necessities of its occupants; it is obvious that it has cost more to build and furnish than it should have done, and involves a perpetual cost for maintenance and service which should have been avoided. Hence, the happy medium is to be found in thrift. So in respect to materials: walls should be of sufficient thickness, floors and roofs of sufficient strength for their respective functions, not much more, and not much less; else there will ensue, either waste in the first instance, or parsimony, which will involve waste in the long run. There are, however, cases in which materials should not be too sparingly employed: in a mansion, for example, intended to be a family home, and to pass from generation to generation, it would be unwise, and out of keeping with its purpose, to apply too literally such a condition as this; for nothing imparts more dignity and a greater idea of the enduring purpose for which such an edifice is designed than

* By Mr. J. Macvicar Anderson, President R.I.B.A.: being his Address to Students, delivered on 25th ult., and published in the *Journal of Proceedings*.

massive walls, thicker no doubt than may be actually required for sound construction, but not more than is called for in order to be in harmony with the traditions and associations which the structure will represent. This, however, is but one of these exceptions that prove the rule of thrift which I have enforced. I am, of course, not unprepared for the inevitable protest of the art-student, who in a burst of æsthetic enthusiasm will denounce the suggestion that so prosaic a quality as thrift should dare to enter the hallowed sanctuary of the art studio; but while entertaining much sympathy with the enthusiasm of youth, and by no means trying to curb it, and while respecting opinions which I doubt not are perfectly genuine, I venture to think that it would be easy to demonstrate that it would be in the true interest of art were her portals more frequently and more hospitably thrown open for the admission and entertainment of the prosaic maiden I have introduced to your notice. How often for instance might she, with manifest advantage, restrain the artist hand in scattering with inartistic profusion ornament which is misplaced, and therefore ineffective! But to enter on such matters would be to deal with other branches of the architect's studies, and to be foreign to my present purpose.

I need not detain you by enumerating conditions more or less obvious, each one of which contributes in its place to the merit of a plan. Apart from considerations of aspect, prospect, and dimensions, each place should be—not only convenient in itself—but should be in its proper position in relation to other places; the work of an establishment, as well as the cost, may be materially diminished or increased, according as this condition is observed or neglected. Doors, windows, fireplaces, should be arranged so as at once to promote comfort and convenience without needlessly destroying wall-space, or incurring draughts; the amount of window-space should be regulated according to the aspect; and many other considerations of a similar nature should be duly thought of. In short, the perfect plan is, and can only be, the result of the thoughtful study of each principle and every detail; none are too minute to be overlooked; as little things sweeten life, so attention to little details makes a plan complete.

I have written to little purpose if I have not convinced you that planning is one of the most important, difficult, and artistic studies of the architect.

Now let me inquire why it is that plans are so frequently bad. I am aware that there are men in the profession who are adepts in planning, and whose productions in this respect we admire. But are they the majority? Rather, I fear, will they be found to be the small minority. Rarely do I examine published plans without detecting faults which are obviously not the necessary outcome of the circumstances. Why is this? In the majority of cases it does not, I believe, arise from lack of ability on the part of the author, but from the neglect to apply the ability he possesses to the working out of a good plan. Where plans are bad, they are so from two causes. (1) It is impossible to produce a satisfactory result without practical knowledge of the requirements: in the case of a gentleman's house, for example, how can we expect to succeed without being familiar with the nature and working of the establishment? (2) Plans are bad because they are not studied as they should be: I am satisfied that there are many practising architects who have never realised the true nobility of planning, who have never experienced the fascination of the almost exhaustless field it presents for the display of imaginative artistic skill, and who consequently have concentrated their artistic powers in the design of the elevation. Need I guard myself from possible misconception by adding that not one word I have written is intended to militate against the importance of artistic design as applied to the elevation? My subject is Planning, and my remarks naturally apply specially to it. Moreover,

architects are not likely to regard the design of the elevation as the least artistic portion of their work, and it is because I entertain the conviction, judging from results, that they do far too much regard the design of the plan in that light, that I have emphasised its artistic character.

The architecture of the future will derive its character, and its development, from the students of to-day; hence I have been tempted to embrace this opportunity to bring specially before you the subject of planning, believing that those who under-value it, do so because they have not studied it and tasted its fascination, and in the conviction that there is no more useful as well as artistic study in which you can engage. Remember that the subject vitally affects you who are devoting your lives to the study of architecture, and that your treatment of it will still more vitally affect those for whom, by-and-by, you will be called on to design; nothing will so certainly secure for their grateful blessing as to promote the comfort, convenience, and beauty of their homes, for on nothing does the daily happiness of civilised society so greatly depend. If I have succeeded in elevating the study and lifting it out of the prosaic level from which it is too generally regarded; if I have inspired in any of you, whom it is my privilege to address, the determination to throw yourselves into it with an enthusiasm which you may not have hitherto displayed; if I have thus, through influencing you, sown seed which will fructify for the benefit of succeeding generations; if I have demonstrated that in this study is to be found one of the most interesting, fascinating, and artistic pursuits, the time will not have been misspent which we have this evening devoted to the consideration of the Art of Planning.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 33.)

FROM the very opening of the Supreme Council in Kilkenny,¹ Ormond had many partisans there, and that wily statesman knew how to foment discord, while he sought to guide all the proceedings, solely with a view of upholding the Royal cause, without reference to their interests in the coming contest. When Hugh O'Byrne had been appointed Lieutenant-General of Leinster, it had been proposed to give him a command of 4,000 foot and 500 horse to form a running army; but, the most he could muster never exceeded 1,500 foot and 100 horse, hardly provided with munitions of war. The Supreme Council also summoned the captains of irregular bands of Leinster Militia to Kilkenny, where it was resolved to form six regiments of foot and 600 horse, as a regular standing army. Many officers who had assumed the title of colonel were now to be cashiered; and among these were Roger Moore, Florence Fitzpatrick, Art Molloy, Art Kavenagh, Awly MaGawley, Luke Byrne, Luke Tuhill, Walter Nugent, Richard Dalton, Henry Dempsey, Hohert Fox, Thomas Tyrrell, Daniel Duynes, John O'Carroll, and John Coghlan. Many of these were very valiant and capable leaders, while they had shown great zeal and self-sacrifice in the Irish interests; while Edmund Bulter, Sir James Dillon, Sir Morgan Kavenagh, Colonel Cullen, and Anthony Preston were selected as the colonels over five regiments to be embodied. The sixth regiment had been reserved for Owen Roe O'Neil or Thomas Preston, then expected from foreign parts. The command of the horse was given to John Butler, Lord Mountgarrett's brother. Mac Thomas and Lewis Moore were appointed

captains of horse, but the latter was not attached to the regular force.²

Having landed in Wexford, Thomas Preston was selected as General for Leinster.³ Although at first he proved to be successful in some few enterprises, it was soon found he was incompetent to discharge well the trust committed to him. About this time, also, one Kiran Fitzpatrick, a captain of foot, and a native of Gortnaclea, was arraigned for sending intelligence to the enemy. He was tried for treason in Kilkenny, found guilty, and executed. Yet, Lord Ormond had very accurate intelligence of all the Confederate movements, in having numbers of influential friends attached to their body, and who carried on constant intrigues with him. The Confederates had bound themselves by an oath to unite in defence of religious freedom, to bear allegiance to the king,⁴ and to assert the rights of their country. In 1643, the Earl of Castlehaven, having obtained some successes in the County of Kildare, left Maurice Fitzgerald in custody of Monastrevin, and marched towards Meath, where Owen Roe O'Neil was in command of the Ulstermen. Afterwards he returned towards Leix with his men and ordnance. Passing through Omey, a garrison in Richard Oge Fitzgerald's house surrendered to him upon summons, but the owner of that house was left there. Thence he marched to Kilmessie, near Maryborough. There the Governor of the latter fort resided with his family, and having refused to surrender the house, it was battered with cannon. Then asking for terms, the defenders were allowed to march into Maryborough, with a convoy. Soon afterwards, the Earl of Castlehaven received a packet, which conveyed to him the Article of Cessation agreed upon between Ormond and the Supreme Council.⁵ He was also commanded by the latter to bring his ordnance to Kilkenny. He was also ordered to restore what he had taken on the day before, and on perusing this despatch, he at once published its contents. Whereupon, Lady Gilbert and her family returned to her house at Kilminech, and whatever goods found among the soldiers had been taken were restored to the former possessors. According to orders, Castlehaven with his men then marched for Kilkenny.

However, this Cessation was repudiated by the Parliament in England, then at war with King Charles I.⁶ In the year 1645, General Owen Roe O'Neill promoted Lewis Moore to be colonel of horse, and he was directed to proceed northwards with his only troop to recruit a regiment, there to serve under the northern leader.

The Articles of Cessation had given as little satisfaction to the Irish party,⁷ as they had to the Parliamentarians of England; while the Scots in Ulster, under General Munroe, were also opposed to it, as not serving their policy and designs.⁸ The Papal Nuncio Rinuccini and Owen Roe O'Neill had an interview at Kilkenny early in the spring of 1646, and the latter had assembled an army of nearly 5,000 foot and 500 horse to take the field in the following

² See "A Contemporary History of Affairs in Ireland from 1641 to 1652," by John T. Gilbert, vol. i., part i. Apportionment of Factions, Book i., chap. ix., pp. 29 to 42.

³ See Rev. Dr. Leland's "History of Ireland from the Invasion of Henry II.," vol. iii., Book v., chap. v., pp. 169 to 184.

⁴ See Francis Plowden's "Historical Review," Appendix No. xxvi.

⁵ The Marquis of Ormond and the Irish Commissioners signed the Instrument of Cessation on the 15th of September, 1643, and this being ratified by the Lords Justices and the Council, it was notified by a public proclamation to the whole kingdom. See Thomas Carte's "History of the Life of James Duke of Ormond, from his Birth in 1610 to his Death in 1688," vol. i., Book iii., p. 451. London: 1738, fol.

⁶ See the account of these transactions in "The History of the Rebellion and Civil Wars in England," by Edward Earl of Clarendon, Book vii.

⁷ The tortuous policy of Ormond, and his delays, which ruined the royal cause in Ireland, are set forth in a little book intitled, "Ireland's Case briefly Stated; or a Summary Account of the most remarkable Transactions in that Kingdom since the Reformation." In two parts. By a True Lover of his King and Country. Printed in the year 1720, 18mo. The printer's name and place of publication are not to be found in it.

⁸ See Sir Richard Cox's "Hibernia Anglicana; or the History of Ireland, from the Conquest thereof by the English to the present Times." Part ii., pp. 147, 148.

¹ A very complete account of their proceedings may be found in "The Confederation of Kilkenny," by Rev. Charles P. Meehan. New Edition, 1882, 18mo.

May. To these were opposed 6,000 foot and 800 horse, when a signal engagement took place on the 5th of June, at Benburb, where the Irish obtained a complete victory.⁹

After the battle of Benburb, in searching the pockets of General Montgomery, who was killed, a list of his intended marches was found, and there when he had reached the town of Cavan, where he was to lodge, the next night he was to reach Fyena, and afterwards proceed to Mullingar, thence to Tyrrell's Pass, thence to Geshill, afterwards to Maryborough, thence to Ballynakill and Kilkenny. It stated, that Sir John Gifford was to meet him at Geshill with as many men as he could muster, while the Puritans of Leix were to meet him at Maryborough. In Kilkenny, Ormond and Inchiquin were to meet him with their forces. When a treaty of peace had been concluded between the Earl of Ormond and the Supreme Council at Kilkenny, the Nuncio and clergy denounced such a transaction, and retired to Waterford, while Ormond advanced at the head of 1,000 foot and 500 horse to take possession of the former city. This intelligence created much division in the Confederate army; and the three Leinster regiments of Hugh Mac Phelim O'Byrne, of Colonel Wareinge, and Richard Butler, with the horse of Mac Thomas, declared for the Nuncio, who also sent a message to urge Owen Roe O'Neill to march upon Leinster. When the latter put his troops in motion, Ormond left Kilkenny and made his escape to Dublin. O'Neill advanced to Kilkenny, and near it pitched his camp at Aghanapark, where he was joined by the Nuncio.

The city being recovered for their party, after a few days both entered it. The Supreme Council was superseded, and a new one was chosen. Then it was resolved, that while General Preston should take possession of Carlow, General O'Neill should wrest the garrisons of Leix, not yet subdued, from the enemy; which services being rendered, both were to unite their forces and march upon Dublin to besiege it. In Leix, Sir John Pigott was a captain of foot, and he had sixty musketeers to defend his possessions there, while his castle was supposed to be strong enough and well provisioned to resist the Confederates. He had some friendly relations with Owen O'Neill, who did not desire to proceed against him to extremities, and who sought to persuade him, that he should only swear fealty to king and country, and surrender on honourable terms, receiving quarter, goods, arms, and castle, to avoid the needless effusion of blood. But he obstinately refused all terms. Whereupon, Colonel Ferrall and Colonel Roger Maguire, with their regiments, were directed to take the strongly fortified house in which he dwelt, and which occupied a commanding position on an elevated ridge. One Bryan Oge O'Duynne, a brother-in-law of Pigott, and a Puritan, advised resistance, and both directed operations within the fort. As the assailants advanced to the attack, a volley of shot issued from the loop-holes of the castle, and killed Alexander M'Allen, a captain of Roger Maguire's regiment. This greatly enraged his men, and as it happened, a haggard was near the fort, while a strong wind then blew towards it. The besiegers set the stacks of hay and corn on fire, when the flames arose, while the musketeers continued their volleys. Soon the pikemen bore on the points of their pikes the burning sheaves and thrust them into the castle windows. They even set fire to the castle door through the grate, while the defenders, blinded and smothered with the smoke, could do nothing more than cry for mercy. Now Bryan Oge O'Duynne ran to the half-burnt castle door, presenting himself to Colonel Ferrall, and begged his life. This was promised him, but the colonel was unable to restrain the fury of his men. They rushed in and butchered all that came in their way, except the women and children; for the general had commanded under pain

of death that such lives should be preserved. Ten or eleven men were spared, likewise, but Sir John Pigott and O'Duynne were slain. The castle was rifled by the common soldiers who found in it a rich spoil.¹⁰

DUST AND FRESH AIR: HOW TO KEEP OUT THE ONE AND LET IN THE OTHER.*

EXCEPT in the case of museums, few serious attempts have been made to exclude dust from rooms, closets, cupboards, and drawers, to the contents of which, not unfrequently, dust is simply ruinous. We allow dust to run riot amongst our things of value, and then go to considerable expense to render them clean again, only to start them on a fresh career of defilement.

Looked at in the abstract, is not our passivo capitulation to dust incomprehensible? When I enter an office in a town and see the windowsills and papers dotted with soot, or go into a bedroom and see the toilet-table defaced with blacks, and know that the soot and the blacks need not bethere, I cannot refrain from asking how comes it to pass that we so patiently submit to such perpetual discomforts. You will doubtless reply, We agree with you as to the existence of the evil, but, how is it to be remedied? The object of my appearance here to-night is to offer some practical suggestions whereby you may so far mitigate and reduce the evils of soot and dust as to make them tolerable, perhaps even to lay down principles by which the evils can be annihilated in those instances in which the result to be obtained is worth the cost of achievement. For the practical purposes of everyday life it may turn out that we had better be content with approximate perfection—a condition of existence which compels us to be content with approximately pure water from a filter, and approximately pure air in our living rooms.

How does Dust get in?—If dust is to be kept out of any cavity, we must first find out why the dust gets in, in spite of good workmanship and accurate fitting. The reason is simple, ridiculously simple when stated; but, curiously, it has been little, if at all, thought of, and certainly hardly ever acted upon in practice. And the reason is this: Closets, cupboards, drawers, and boxes contain air; if the air were inelastic and never altered in volume, there would practically be no entrance of dust into these closed cavities. Unfortunately for our cleanliness, air is changing in volume incessantly. We are all familiar with the barometer, and most of us no doubt understand why the quicksilver rises and falls in the glass tube, or why, in the aneroid barometer, the index moves to right or left. Let us consider what these changes mean, and what they record.

When the air around us becomes condensed—shrinks into a smaller volume—it becomes heavier, puts greater pressure on the surface of the mercury, and makes it ascend in the tube; then the mercury is said to rise. When the air expands—swells into a larger volume—it becomes lighter, the pressure on the mercury is less, the mercury sinks in the tube, and the barometer is said to fall. Therefore, every change of height of the quicksilver which we observe is a sign and measure of a change in the volume of air around us. Further, this change in volume tells no less upon the air inside our cases and cupboards. When the barometer falls, the air around expands into a larger volume, and the air inside the cupboard also expands and forces itself out at every minute crevice. When the barometer rises again, the air inside the cupboard, as well as outside, condenses and shrinks, and air is forced back into the cupboard to equalise the pressure; and, along with the air, in goes the dust.

The smaller the crevice, the stronger the jet of air, the farther goes the dirt. Witness the dirt-tracks so often seen in imperfectly-framed engravings or photographs. Remember, ladies and gentlemen, whenever you see the barometer rising, that an additional charge of dust is entering your cupboards and drawers. So much for the barometer, which is a very restless creature, rarely stationary for many hours together. But this is not all. We also have the thermometer. The temperature of our rooms varies daily—often considerably—between mid-day and midnight, and greatly between summer and winter. What does the thermometer tell us? Not less than the barometer does it tell of change of volume of the air, though it is probably not so rapid in its effect upon the air in enclosed spaces as is the change of volume indicated by the barometer. Many of you have seen a fire-balloon. The heated air, filling the balloon, expands, and becomes lighter than the surrounding air, and up goes the balloon, until, the source of heat having become exhausted, the contained air cools, contracts, becomes as heavy as the surrounding air, and down comes the balloon again. So, also, as temperature rises outside our cases, the increased warmth is slowly conducted to the air inside the case, which expands and escapes through the crevices. Then, when the time for cooling comes, the air inside slowly contracts, and back rushes the air through the crevices, and again in goes the dust. Thus, we see we have two factors constantly acting, one or other tending to produce daily, nay, hourly, changes in volume of our dirt-carrying air.

In order to inform myself of the amount of change of volume that could, under extreme conditions, possibly take place, I asked Professor Rücker to kindly calculate for me the change of volume that would take place in 100 cubic feet of air, between a temperature of 30 degrees, *i.e.*, just above freezing point, in combination with the barometer standing at 30 in., or about "fair," and a temperature of 60 degrees, combined with the barometer standing at 29 in., or "stormy." He told me that the difference would be about 10 cubic feet, or one-tenth; in other words, that a closed case of 100 cubic feet, if hermetically sealed at a temperature of 30 degrees, with the barometer standing at 30 in., would have to resist the pressure equivalent to the addition of 10 cubic feet, when temperature rose to 60 degrees, and the barometer fell to 29 in. Have we not now discovered the reason why dirt enters closed spaces? What shall be the remedy?

Seeing, then, that air will find an entrance, and in the nature of things must get in—well, we must let it in, not at innumerable uncovenanted small crevices, but at our own selected opening, specially provided. Then we are in a position to strain off the dust by providing the selected opening with a screen, which acts as a filter. These, then, are the general principles on which we must act. The rest is a question of detail. The details range themselves under three heads:—1. What is the most effective, or the most generally applicable filtering material? 2. Given the filtering material, what ought to be the proportion between the area of the screened opening and the cubic contents of the case to which it has to be fitted? 3. What, in any particular instance, is the best situation for the filter?

Filtering Material.—What is needed in our filtering material is that it shall readily allow air to pass through, and shall also possess the quality of arresting in its meshes fine particles of dust. For some purposes it may suffice to use a coarse canvas, the threads of which are not too closely twisted and have an abundance of fine fibres projecting from them, thereby reducing the small squares of the woven texture to a still finer mesh. The material I have used most frequently is "bunting," but it has disappointed me. When examined by the microscope, many of the small squares of mesh are seen to be deficient in delicate fibres standing out from

¹⁰ See "A Contemporary History of Affairs in Ireland from 1641 to 1652," by John T. Gilbert, F.S.A., M.R.I.A., vol. i, part i, Aphorismal Discovery of Treasonable Faction, Book ii, chap. ix., p. 129.

* From Paper by T. Pridgin Teale, M.A., F.R.S. Read at Society of Arts, on 3th inst.

⁹ See Carte's "History of the Life of James Duke of Ormonde," vol. i, Book iv.

the threads, which would enhance the filtering power of the texture. Lately I have tried other materials—domette, flannel, and cotton-wool between layers of muslin, such as is used for dressing wounds under the name of Gamgee tissue. Cotton-wool is probably the most perfect filter. Indeed, so perfect is it that in the new science of bacteriology it is used as an effective means of excluding dust and germs from flasks in which experiments are to be carried on. In order to put various textures to an exact comparative test, an experiment was tried. Having selected six quart bottles with wide mouths, I tied over the mouth of each a piece of the filtering tissue which I wished to test. The bottles are not liable to crack, as wooden boxes are; the only access for the interchange of air in the interior was through the filtering texture. I thus had a means of testing the comparative value as strainers of the various materials. Within the bottles were placed glass slides on which any dust that was carried in might settle. The experiments were begun on May 5th, 1891, and the slides were taken out on January 6th, 1892, and most carefully photographed by Mr. Lafayette, and made into lantern slides. The bottles were placed near a window in a room in the building of the Leeds Philosophical Society, *i.e.*, quite in the centre of Leeds. The materials tested were:—Canvas; bunting; ordinary flannel; domette flannel, rough side in; domette flannel, rough side out; cotton-wool, 1 in. thick.

The results of the experiments are now shown you by the lantern. It will be seen that as a consequence of eight months' exposure, including a week of the worst fog I ever knew in Leeds, three of the filtering tissues admitted a very appreciable amount of dust, *viz.*, coarse canvas the most, hunting coming second, ordinary flannel admitting less than either. The other three bottles were screened, one with thick domette, rough side in; one with domette rough side out; and one with cotton-wool about an inch in thickness. The three last show hardly a trace of dust. Curiously, the cotton-wool shows a trace more than the domette flannel. The explanation of this I suspect to be that the cotton-wool was not tied firmly enough round the neck of the bottle, which had no rim, and that some air passed between the bottle and the wool, instead of through the wool.

Another experiment which I tried was to fit up a cupboard with panels of double domette flannel. After the fog, to my surprise, the inner screen had become more or less black, showing that black particles had passed into the cupboard, but with this remarkable difference: whereas the outer flannel was almost uniformly black from top to bottom, the inner flannel was divided into four squares of different shades of blackness, corresponding to four spaces between shelves. Of these four, the lowermost was almost as black as the outside, and the uppermost was almost clean. I just mention this as a fact which needs an explanation, but without suggesting one.

There is one error which I think has been committed in the screens made for me, and it was pointed out by my friend Mr. White, the architect, of Wimpole-street. The filtering material is likely to act more effectively if left loose and not stretched tight, as when tense, the interstices are stretched and made larger, and when out of sight it might be very loose, almost haggly, with advantage.

Hoping to get some hints as to the comparative value of the various textures under trial, I placed specimens of each under the microscope. It is obvious that both canvas and hunting are of two open a texture, having numerous small holes unguarded by delicate fibres. Judging by the microscope, one would conclude that of woven textures, probably flannel, and, still more, domette flannel, are the best, and this judgment seems to be borne out by the experiments with the bottles.

The Proportion between the Filtering Open-

ing and the Cubic Contents.—This is a question which experience alone can decide. Doubtless the larger the area of screened opening, the more effective the filtration. For a bookcase with glazed front, probably the whole of the back might be made of flannel loosely fixed over the necessary skeleton framework. For a cupboard or closet, every panel should be replaced by a screen. If the closet have a window, all crevices and joints in the window should be pasted up to exclude the soot, otherwise the wind from the outside, or the fires of the house from the inside, will force the air soot through. On the other hand, it is probably true that, given very perfect fitting and workmanship, aided by the interposition of velvet, as hereafter described, where the edges of the doors come into contact with their frame, a much smaller area of filter, perhaps even a simple tube, filled with cotton-wool, may prove to be efficient. These, however, are points on which further experience is needed, and which may, ere long, be settled by experiment.

The Situation of the Screened Opening.—Where shall we place our screen? This is a question which admits of a variety of answers, and gives scope for endless ingenuity. In anything which is being newly made, such as the cupboards and closets of a new house, or in new furniture, we are masters of the situation. In many of them we may substitute at the back our filtering texture for wooden boards, and perhaps even save expense thereby. In closets we may replace the panels of the door by filtering texture, guarding the closets, if necessary, against thieves by wire netting or iron bars fixed on the inner side. As a rule, chests of drawers may have the filter over the whole surface at the back, care being taken that the back of each drawer falls half an inch short of the top of the drawer, to allow free entrance of air from the screen. In one set of drawers, so placed that I could not get at the back, the difficulty was got over in this way:—In the front of each drawer a series of twenty holes, of an inch diameter, was made for admission of air. The filter, on a frame, was fixed on the inner surface of the front of the drawer, so that the material should stand half an inch away from the holes. A somewhat similar plan was adopted in a bureau. About twenty large holes, 2 in. in diameter, were cut in the woodwork at the back, some of the holes being opposite pigeon-holes. Then the whole was covered with bunting, on a frame so arranged that the hunting was fully half or two-thirds of an inch away from the wood. Another method has been adopted at the Yorkshire College for some of the cases. The filter was applied at the roof, somewhat after the fashion of a weaving-shed roof, the vertical face being filled in by the screen. Again, Mr. Branson has provided a roof filter for a case of scientific instruments, by placing the screen in the roof of the case, and protecting it by a false roof 2 in. above it, to prevent its being choked by falling dust.

How to Deal with Crevices.—What shall we do with crevices and cracks? At first, I hoped that narrow chinks might be ignored, on the principle that easy passages of air through an ample screen would virtually stop off currents through narrow spaces. In this I have been disappointed, as, in some cases, a chink, though apparently narrow, has proved too accommodating to the passage of air, and a more ready channel than the interstices of flannel. My rule now would be, to close or guard with filtering material every place where the door comes into contact with its frame.

The plan I have adopted with the doors of several cupboards and closets is this—to put strips of cotton velvet where ever the door comes into contact with its framework. On the side where the hinges are, the velvet is glued and sprigged to the edge of the door: on the other side and the top the velvet is fixed to the rebate against which the door presses. If the door belong to a closet, and the bottom is not in close contact with the floor, a small

piece of flannel or cloth may be fixed along the inner side of the bottom of the door, so as to form a curtain which closes the gap, and filters any air that passes through.

Such, then, are the principles which may guide us to a victory over dust, and such are some of the details whereby we may work out a method by which the victory is to be won. Do not suppose that I claim to have completely conquered the enemy; but a beginning has been made, a beginning definite enough and assured enough to encourage others, and especially architects, to study the question and to make trials. If they will but work with determination to conquer, they may confer upon the community a most welcome amelioration of some of the smaller miseries we have to submit to.

THE HISTORY OF THE CHURCH AND PARISH OF ST. MICHAEL THE ARCHANGEL, DUBLIN.

THE PAROCHIAL REGISTER.

(Continued from page 22.)

BAPTISMS.

1826-1840.

1826.

Jan. 29. William, s. of Thomas GREENE, of Jones's-court, and Jane his wife.

May 7. William, s. of Nicholas and Honora M'GARRY.

May 7. Maria, dau. of Thomas and Catherine PASLEY, 19 Michael's-lane.

May 14. Rebecca, dau. of Archibald and Elizabeth NICHOLSON.

July 23. Maryanne, dau. of John and Mary ALEXANDER, 40 Cook-street.

Dec. 31. James, s. of William and Mary ELMS, Jones's-court.

1827.

Feb. 4. Catherine, dau. of Patrick James and Ann RICHARDSON, of High-street, born January 24.

May 24. John, s. of John and Rachael REVELL.

May 31. James, s. of William and Mary LONGMOORE.

July 8. John, s. of John and Catherine BROUGH, High-street.

July 25. Joseph, s. of Joseph and Margaret DOBSON, Michael's-lane.

Oct. 10. Margaret, dau. of James and Elizabeth GRIFFITH, High-street.

Nov. 25. John Thomas, s. of John and Ann ADELEY, Michael's-lane.

1828.

Jan. 11. Frederick, s. of Michael and Honor M'GARRY, Cork-street.

Jan. 13. William St. John, s. of Bartholemew and Mary HATTON, High-street.

March 9. Catherine, dau. of William and Mary MALLIN, 65 High-street.

July 27. Presented at the Altar of St. Michael's Church on Sunday, the twenty-seventh day of July, 1828, having previously received Private Baptism, *viz.*, Cornelia Johnson Mathews, daughter of William Peter and Marianne MATHEWS, Dublin Castle, Born the twentieth day of March, 1825, and Baptised by the Rev. William Whitelaw, on the twenty-fifth day of March, 1825, twenty-five.

Edward Wellesley Mathews, second child, was Born the eighth day of December, 1826, and Baptised by the Rev. Mortimer O'Sullivan, on the twenty-fifth day of January, 1827.

Baptised the twenty-seventh day of July, 1828, Marianne, daughter and third child of William Peter, and Marianne Mathews, of Dublin Castle, Born on the second day of February, 1828, eight.

July 28. Eliza Catherine, dau. of John and Eliza O'HARA.

Aug. 22. George, s. of John and Ann WILLS, High-street.

Nov. 2. Lucy, dau. of James and Mary KELLS.

Jan. 2. Elizabeth, dau. of William and Mary LONGMOORE.

Jan. 11. Cornelia, *dau.* of William and Jane ELMS.
 Feb. 27. Robert Gore, *s.* of William and Sarah RICHARDSON, High-street.
 March 8. William, *s.* of John and Rachael REVELL.
 April 10. Robert William, *s.* of William and Ann GRANT, 4 Michael's-lane.
 April 12. David, *s.* Thomas and Mary BRISCOE.
 June 14. Elizabeth, *dau.* of Charles and Ann CALLAGHAN, Cook-street.
 Nov. 1. Jane, *dau.* of John and Catherine HOLMES, Schoolhouse-lane.
 1830.

May 23. Martha, *dau.* of John and Annabella ADDERLY.
 May 23. Wentworth, *s.* of Bartholemew and Mary HUTTON, High-street.
 Sept. 5. William, *s.* Thomas and Augusta READ, bapt. by me George De Butts, curate assistant.
 Oct. 1. Martha, *dau.* of Charles and Emily BRIEN.
 1831.

Feb. 9. Isabella Jane, *dau.* of James and Maria THOMPSON.
 April 22. Thomas, *s.* of John and Rachael REVELL.
 May 1. James, *s.* of William and Ann GRANT.
 July 12. James Saul, *s.* of William and Sarah RICHARDSON, High-street.
 Aug. 7. Alexander, *s.* of John and Maria TRUEMAN.
 1832.

March 23. Georgina, *dau.* of John and Margaret HERRIES, born 28 Dec. 1829.
 March 23. Robert, *s.* of John and Margaret HERRIES, born 28 Dec. 1831.
 April 22 (Easter Sunday). Thomas Andrew, *s.* of Thomas and Mary BRISCOE.
 April 21. John White, *s.* of Charles and Emily BRIEN, High-street.
 April 29. Esther, *dau.* of Thomas and Letitia CROTHERS.
 May 20. Sidney, *s.* of Thomas and Bridget SMITH, Private in 17th Lancers.
 June 10. James, *s.* of Robert and Frances ECCLES, 60 High-street.
 Aug. 21. Jane-Fanny, *dau.* of William and Mary WILDRIDGE, Michael's-lane.
 Sept. 12. Matilda, *dau.* of James and Maria THOMPSON, High-street.
 Sept. 30. Elizabeth, *dau.* of James and Elenor BECKE, 54 High-street.
 Oct. 7. George, *s.* of John and Rachael REVELL.
 Dec. 23. Mary, *dau.* of William and Elinor NEILE.
 1833.

Feb. 3. Jane, *dau.* of William and Anne GRANT.
 March 20. Catherine, *dau.* of William and Sarah RICHARDSON.
 March 28. Joanna, *dau.* of Samuel and Emma GAMBLE, jun., High-street.
 May 4. Michael HALL, a child deserted by its parents, found at No. 2 Michael's-lane, on 27 April.
 May 18. Matthew, *s.* of John and Mary NORRIS.
 June 4. Charles Henry, *s.* of Charles and Emily BRIEN, of High-street, chandler.

A List of Persons from St. Michael's Parish presented for Confirmation in St. Catherine's Church, on 10 June, 1834:—
 William PERRY. William SMITH.
 John GAME. Patrick KANE.
 George THOMPSON. John MERDITH.
 Thomas PHILLIPS. John MURPHY.

July 27. Charlotte, *dau.* of Thomas and Margaret BRISCOE.
 Dec. 7. Elizabeth, *dau.* of John and Rachael REVELL.
 Dec. 21. Sarah, *dau.* of John and Rosanna TOWNLY, late steward of the *William Fawcett* steampacket.
 1835.

April 16. John Armstrong, *s.* of William and Sarah RICHARDSON.
 April 26. Robert, *s.* of George and Catherine PATTERSON.

July 12. John, *s.* of Mark and Catherine COSTELLOE, 58 High-street.
 Nov. 15. Anne, *dau.* of John and Mary BIAS, Blackhall-row.
 Nov. 15. Jane Eliza, *dau.* of Samuel and Mary Norris M'GOWAN, No. 1 Winetavern-street.
 1836.
 Mar. 19. William Henry, *s.* of Charles and Emily BRIEN, born 2 March.
 May 16. Valentine DUGGAN, a child deserted by its parents, and found in Adam and Eve Chapel, Merchants'-quay.
 May 25. John, *s.* of John and Rachael REVELL, sexton of St. Michael's parish.

A List of Persons from St. Michael's Parish presented for Confirmation in St. Peter's Church, on 30 May, 1836:—
 John WOLFE, St. Michael's School.
 Patrick MURPHY, do.
 Anne SHIELDS, Angel-court.
 Sophia SHIELDS, do.
 Arabella BRISCOE, Michael's-lane.
 1837.

June 4. Frederick, *s.* of Samuel and Julia JONES, Rosemary-lane.
 June 10. Isabella, *dau.* of Elias and Isabella NELSON, 16 Smock-alley.
 June 12. James, *s.* of Brereton and M. A. HOWARD, 1 Hoey's-court, Werburgh-street.
 July 2. George, *s.* of George and Catherine PATTERSON.
 July 16. Elizabeth Mary, *dau.* of Mr. William and Sarah RICHARDSON, High-street.
 July 23. Margaret, *dau.* of William and Sarah KING, Cook-street.
 Sept. 10. Richard, *s.* of William and Elizabeth GREENE.
 Sept. 24. Rachel, *dau.* of Peter and Jane WINTERS.
 Sept. 27. Charles Abraham, *s.* of Henry and Sarah BUTLER.
 1838.

March 11. John, *s.* of John and Esther LAVENDER.
 March 30. Richard Charles, *s.* of Rev. Charles M'DONNELL, Curate of St. Michael's, and Mrs. Frances, his wife.
 June 10. Elizabeth, *dau.* of William and Margaret ALLEN.

Confirmed in St. Werburgh's, 19 June, 1838:—
 Daniel BRISCOE, 21 Michael's-lane.
 William FLETCHER, 52 High-street.
 Maria FLETCHER, 52 High-street.

Aug. 12. Ann, *dau.* of John and Sarah JONES.
 1839.
 Jan. 30. Honoria, *dau.* of Bernard and Catherine M'GARRY.
 1840.

Jan. 12. William Thomas, *s.* of William and Elizabeth MALONE, 9 Cook-street.
 March 8. Mary, *dau.* of George and Catherine PATTERSON.
 April 12. Margaret, *dau.* of — MYRES and Margaret his wife.
 May 3. Richard James, *s.* of Arthur and Elizabeth WHITE, Back-lane.
 June 21. Adelaide, *dau.* of John and Rachael REVELL.
 Nov. 17. Margaret, *dau.* of Bernard and Catherine M'GARRY.

MARRIAGES.

1826-1840.

1827.

Oct. 6. George WINGROVE, of Rathdrum, Co. Wicklow, gent., and Hannah SAUL, spinster, by licence, by Rev. Edward Leet.
 1829.

July 27. John MORRISON and Mary Anne MORGAN, by publication of banns.
 Aug. 5. John SALTER, of Merchants'-quay, Esq., and Caroline OTWAY, of Grafton-street, City of Dublin, spinster, by licence.
 Aug. 16. William SCULLY and Frances CLARKE, by publication of banns.
 Oct. 23. George BRISCOE, of Merchants'-quay, Esq., and Matilda BERNARD, of Baggot-street, Dublin, spinster, by licence.
 Nov. 7. Charles BRIEN, of High-street, chandler, and Emily WHITE, spinster, by licence.

1830.

Aug. 31. Oliver O'CONNOR and Margaret CULLEN, by publication of banns.
 Nov. 7. Nathaniel MONCK, of Lower Gardiner-street, parish of St. Thomas, Esq., and Elizabeth MAYSTON, of the parish of St. Michael, spinster, by licence.
 1831.

Feb. 3. John BARRINGTON, of Upper Dominick-street, parish of St. Mary, Esq., and Martha GAMBLE, of High-street, spinster, by licence.
 1832.

April 11. Thomas LEECH and Jane GIFFORD, both of St. Mary's parish, by publication of banns.

Oct. 1. Patrick FLINN and Catherine MANGAN, by publication of banns.
 1833.

June 2. Arthnr BREW, of High-street, and Mary Teresa LONG, of Bolton-street, in the parish of St. Mary, spinster, by licence.

Oct. 28. John FENAN, of St. Mary's parish, and Julia BARNEWALL, of the parish of St. Michael, by publication of banns.
 1834.

Jan. 12. Thomas GEORGE, of the parish of St. Nicholas Within, and Ina SMALLMAN, by publication of banns.

Feb. 7. John ROGERS, of Navan, now of Mabbot-street, parish of St. Thomas, gentleman, and Mary BLAKE, of St. Michael's-hill, spinster, by licence, by Rev. Charles Quinan, Curate-Assistant.

Feb. 13. Bernard M'GARRY, of Cook-street, merchant, and Catherine MILLER, otherwise M'Alpine, of Blackhall-street, in the parish of St. Paul, Dublin, by licence.

April 16. William Henry DANIEL, of Edmonston, County of Mayo, now of merchant's-quay, Esq., and Harriett JOHNSTON, of Mountjoy-street, parish of St. George, spinster, by licence.

Oct. 28. Felix EVITT, of Stephen's-green East, parish of St. Peter, and Margaret GODWIN, of this parish, by publication of banns.
 1835.

July 23. George HARDEN, of Tullamore, King's County, Esq., and Alletta BILTON, otherwise Biggs, of Tullamore, King's County, widow, now residing on Wellington-quay, parish of St. Werburgh, Dublin, by licence, by Rev. Charles Quinan, Curate-Assistant.

Aug. 5. Joseph ROBINSON, of High-street, and Sarah HANDFIELD, of Lucan, in the parish of Lucan, Co. Dublin, by licence.

Oct. 26. John LAVENDER and Esther CARNEY, by publication of banns.
 1836.

May 16. James RODNEY and Eleonor QUINAN, both of St. Michael's parish, by publication of banns.

June 4. Thomas James QUINTON, of Merchants'-quay, Esq., and Mary READ, otherwise KNIGHT, of Dundrum, in the parish of Taney, Co. Dublin, widow, by licence.
 1837.

Feb. 6. William Henry POPE and Susanna MCGOLDRICK, of the parish of St. Michael, by publication of banns.

April 20. Rev. Charles M'DONNELL and Frances Boys, both of St. Michael's parish, by publication of banns, in St. Michael's Church, by the Rev. Mr. Jones.
 1838.

March 12. Henry BELFIELD and Jane M'ARDELL, both of this parish, by publication of banns.

June 4. John FLINT and Martha PHIBBS, both of this parish, by publication of banns.

Dec. 17. Patrick DUNNE and Mary WARD, of St. John's parish, by publication of banns.
 1839.

Feb. 25. Lewis LAPIER and Anne FITZPATRICK, of the parish of St. Nicholas Within, by publication of banns.
 1840.

May 4. Matthew WEST and Frances YOUNG, by publication of banns.

Nov. 26. John READ, of High-street, Surgeon R.N., and Frances MOLLOY, of same place, by licence.

CORRESPONDENCE.

THE REGISTER OF ST. MICHAEL'S PARISH.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—A marriage recorded at page 22 of your issue of 15th January last, claims to be noticed:—"1813, September 16.—The Rev. Robert Walsh and Miss Ann Bailie, both of Finglas, were married, by Consistorial Licence, in St. Michael's, Dublin." This was the Rev. Robert Walsh, Curate, from 1806, of the parish of Finglas, and from 1839 till his death in 1852, Vicar of that parish. Mr. Walsh was a scholar of T.C.D. in 1794; graduated B.A., Vernis, 1796, and was afterwards LL.D. and M.D. He was the coadjutor of the Rev. James Whitelaw, Vicar of St. Catherine's, in the compilation of his "History of the City of Dublin" (2 vols. 4to, 1818), and which work he completed after Whitelaw's death. Dr. Walsh was also a practical archaeologist, for, by his exertions, "The Cross of Finglas"—now so remarkable a relic of the past—was discovered, exhumed, and set up in its present position in the old churchyard of that parish.

Again, the Right Hon. John Edward Walsh, eldest son of the Vicar of Finglas, was, like his father, a Scholar of T.C.D., 1835. He graduated LL.D.; was a distinguished Advocate, M.P. for the University, and Master of the Rolls in Ireland. He was known to letters by his very amusing brochure entitled "Ireland Sixty Years Ago" (Dublin, McGlashan, 1847), a new edition of which appeared in 1876, under the title of "Ireland Ninety Years Ago" (Dublin, M. H. Gill and Son), and from which many passages have been expunged. The Master of the Rolls was cut off by sudden illness, at Paris, on 20th October, 1869, at the comparatively early age of 52.

The Rev. Robert Walsh, D.D., eldest son of the Right Hon. J. E. Walsh,—late of Malahide, County Dublin, but now Incumbent of St. Mary's, Donnybrook—is also an author and archaeologist. His work, "Finglas and its Churches," published in 1888, speaks for itself, and shows how he, too, can contribute to the instruction, as well as to the amusement (in its truest sense), of his contemporaries.—Yours, &c., R.

11th February, 1892.

THE COURT-HOUSE,
GREEN-STREET.

In opening the Commission of Oyer and Terminer, in the Court-house, Green-street, on Tuesday last, the Lord Chief Justice, after referring to the state of the calendar, spoke in strong language as to the condition of the court-house, in which they were obliged to dispense the criminal and civil business of the County and City. He said:—

I am always glad to meet the grand juries of the County of Dublin and of the City of Dublin, but I own that I am not glad to meet them in this structure, euphemistically called a court-house. I do not know who is responsible for the condition of things here. If it is the Government, the condition of things here is a disgrace to the Government. If it be the Corporation, the condition of things here is a disgrace to the Corporation. If the responsibility be conjoint, the disgrace equally belongs both to the Government and to the Corporation. To-day it is impossible to move or breathe in this court. The place is pervaded by a mephitic atmosphere, and the exhalations which proceed from beneath the floor of this court-house, are pestiferous, and sometimes absolutely overpowering. I

believe that infection festers here, and that this so-called court-house is a prolific breeding ground of disease. It is a melancholy thing to have to administer the law in such a place. I have spoken here before. This is the last time that I shall speak about this matter. If I do not find, before the next Commission, that some practical move is taken to remedy this state of things, I shall summon a meeting of the common law judges, and take counsel with my brethren on the hench as to whether we cannot go elsewhere. If we do go elsewhere, our doing so will be attended with great inconvenience and great expense, but the fault will not be with us. We have spoken often, but we have spoken in vain. I do not know with whom the responsibility rests—whether with the Corporation, as I said before, or with the Government; but this thing I am clear about, that the Government should subscribe largely, not to the patching-up of this disgraceful edifice, but to the building of a new court. I will say no more upon the subject, except to express my great sympathy with the jurors of Dublin in being compelled to administer law in such a structure as this.

Mr. Daniel Bolger, T.C., one of the Grand Jurors, as a member of the Corporation, wished to say that, as far as the Lord Mayor and members of the Corporation were concerned, nothing would give them greater pleasure than to co-operate with the authorities who had control over the court. The court-house should be made as comfortable as possible for citizens who had to come there to discharge their duties. He had to complain of the arrangements for the jurors, independent of the condition of the court-house, and he thought he expressed the opinion of his fellow-jurors when he said that the doors should be kept closed until the names of the jurors were called, so that the jurors could get easy excess. He agreed that the structure and condition of the court-house were unworthy of the city of Dublin, and he could say for the members of the Corporation on the jury that they would do everything they could to make the court-house what it ought to be.

The Lord Chief Justice said he was glad to hear Mr. Bolger expressing the disposition of the Corporation in the way he had done.

NOTES OF WORKS.

Two stained glass windows have recently been erected in the parish church of Kilsaran—the one on the left of the altar in memory of Lady Constance Bellingham, the other in memory of the late priest of the parish, Father Corrigan. Both are from the firm of Messrs. Early and Powells, of Dublin. The subject of the former window is the Annunciation of the Blessed Virgin, whilst that of the latter is our Lord exhibiting His Sacred Heart.

A handsome marble cross has been placed in Queensferry churchyard by the officers and men of H.M.S. *Iron Duke*, the Forth guard ship, in memory of their shipmates who have died at Queensferry. The base is of grey granite, with two marble steps which are surmounted by a large marble cross.

MISCELLANEOUS.

THE BUILDING EXHIBITION.—The exhibition for this year will be held at the Royal Agricultural Hall, Islington, London, from 14th to 26th March next. The sections will comprise—carpentry, carving, furniture, painting and decorating, mental work, building appliances and materials, building facilitators, invention and design.

THE EXTENSION OF BALLYMENA TOWN BOUNDARY.—A short time ago an engineer from the Local Government Board attended in the Court House, Ballymena, to hold an enquiry into the contemplated extension of the boundary of the township in accordance with the expressed wish of the local commissioners; and a letter has just been received from the Local Government Board expressing their sanction of the scheme.—*Northern Whig*.

THE JOLY COLLECTION OF HOGARTH'S WORKS.—Messrs. Sneathy, Wilkinson and Hodge, London, will next week sell the remarkable collection of the works of Hogarth, and the books relating to, or illustrated by him, formed by Dr. J. R. Joly. The principal lot comprises an extensive and unique collection of the works of Hogarth—indeed nearly every known drawing and engraving by this artist—carefully arranged and mounted in 25 atlas folio volumes. It contains about 158 drawings and 6,097 prints, many being original drawings and impressions of rare plates.

WOOD OILS IN BURMA.—The extraction of oil from wood in Burma is becoming year by year an important industry. Those parts of trees which have hitherto been regarded as useless, such as stumps and roots, are no longer left in the forest to rot, but are subjected to various methods of treatment, by which not only wood oil, but charcoal and resin are obtained. The oil, as is now extracted, cannot be used alone for illuminating purposes, but can be used in combination with kerosene in pasting trays, boxes, &c. It can also be used in lamps with safety, when mixed with vegetable oils.

A NEW RAILWAY BRAKE.—A new railway brake has been invented which has the advantage of acting on the rail instead of the wheels. It is comprised of a block of the usual kind, which is furnished with a soft iron shoe, and this is pressed on to the rail by the action of an eccentric. Sufficient power can be transmitted to these blocks to actually raise a locomotive or railway truck from the track if necessary. The great advantage of this brake, besides its immense power, would seem to be in the fact that it would not have the tendency to flatten a portion of the rim of the wheel by dragging it along the rail, as the brake at present in use has.

PATENT COWL.—A new patent cowl has been devised by Messrs. Houston and Colville, Dundee. It is made of galvanised iron, and is substantially constructed. The leaves and hinges forming the head of the cowl are cast or struck to pattern, being rivetted together by a brass pivot, and then rivetted to stock. The cowl is self-acting, the leaves are so gauged that the pressure of the wind closes them, the opposite leaves being open for the exit of smoke. Among the special advantages claimed for this cowl may be mentioned:—It is fire-proof; it does not require to be removed in sweeping the chimney, either from top or bottom; it is noiseless; it has no revolving top, or other obstruction where soot may accumulate; it is firmly constructed, and will stand an hurricane without injury; it is ornamental in appearance, and can be fitted on any kind of chimney.

PLUMBERS' WORK AND THE PUBLIC HEALTH.—A public meeting of representatives of the counties of Forfar, Fife, and Perth has been held at the Town Hall, Dundee, in connection with the National Registration of Plumbers. It was stated that a congress of representatives of plumbers and sanitary authorities would be held at Dundee during the current year. The Lord Provost, in moving the adoption of the report on the progress made in the district during the year, referred to the application of grants by the County Councils in aid of plumbing classes in the three counties. The report included reference to a library of books on plumbing and sanitation established during the year at Dundee. Ex-Bailie Ogilvie, in seconding the adoption of the report, referred to the necessity for statutory powers to give effect to the registration system. Dr. Lennox, medical officer of health, quoted statistics showing the relation between plumber's work and the bills of mortality and sickness. Besides the master and operative plumbers elected to serve on the district council for the ensuing year, Lord Provost Mathewson was re-elected president, and ex-Provost Ballingall re-elected, and ex-Bailie Ogilvie elected, vice-presidents. Mr. J. J. Henderson was re-elected secretary, and Mr. W. Farquharson treasurer.—*Sanitary Record*.

TENDERS.

For supplying iron pipes and valves for Clonmel Waterworks, according to the scheme submitted to the Clonmel Corporation, by Mr. W. H. Radford, C.E., of Nottingham:—

The Stanton Iron Works Company, Limited (accepted) .. £4,843 14

The estimated cost of the entire work is £14,437.

THE IRISH BUILDER.

VOL. XXXIV.—No. 773.

THE NEW TOWN HALL, NEWRY.

DISCUSSION ON THE SUBJECT POSTPONED FOR SIX MONTHS.

AS already stated in this journal, an adjournment, for a fortnight, of meeting held on the 8th ult. was agreed to. Accordingly, on the 22nd the Commissioners, to the number of thirteen, assembled in the board-room, Marcus-square, and again discussed the question. "Will it be believed (asks the *Telegraph*) that to-day the Town Hall question is just as far forward as it was two years ago? Yet that is the condition of things, established by the adoption of Mr. Fowler's motion, deferring the opening of any tender for the erection of a Town Hall on the river site, for six months. That means, practically, unless wiser councils prevail, the abandonment of that site. This is such an extraordinary *volte face*, that we confess to the same degree of amazement as will strike, we believe, everyone of our readers to-day. What is the meaning of it all? We perused our report of the observations of Mr. Fowler—who, it must be said in all fairness, was a consistent opponent of the river site—and we find that his reason for proposing the resolution which he put forward was the difference between the estimated cost of the building and the amount actually disclosed in the tenders. Upon these grounds only he based his motion for delay."

As the throwing up of the contract by Messrs. Colleen Brothers, these gentlemen had, perhaps, sufficient grounds for their action over and above the consideration of the questioned stability of the bridge, on which they were asked to build the hall. In the second competition, Mr. Mahood (a local builder) was the only one who put in a tender, and this for a time is held over. Referring to this matter, our contemporary writes:—"Nothing is alleged that we know beyond the fact that the Messrs. Colleen Brothers, the contractors whose tender was accepted a month ago, refused to sign a condition making them responsible for any subsidence which might take place in the bridge. But these gentlemen explicitly guarded themselves from any imputation as to the stability of the bridge, simply grounding their objection upon the contention, that they should not be held responsible for the work of another contractor!! In that, many thought at the time they were not unreasonable, the only point upon which they were held to be blameable being that they had tendered without having informed themselves as to this particular 'condition.' So much for the stability question."

We now proceed to print some portions of the interesting debate that ensued, and which was opened by Mr. Todd.

Mr. Todd—I beg to propose, in pursuance of the notice of motion proposed by me on this day fortnight, the following:—"That the resolution passed by the board on the 30th November last, accepting the tender of Messrs. Colleen Brothers for the building of

the Town Hall for the sum of £6,632, be, and the same is hereby rescinded, that firm having declined to complete the agreement to construct the works, which embodied the conditions of the contract."

Mr. Fowler—How do we stand in relation to the Messrs. Colleen Brothers?

Mr. Carey—You are to consider them out of the question altogether now. They refused to carry on the work.

Mr. Fowler—In view of any tenders they might accept being higher than Colleen Brothers, could they seek damages for the difference from that firm?

Mr. Carey—My opinion is, that you cannot bind them. In their contract they studiously avoided any reference to the "conditions."

The Clerk read the following letter:—

Newry, 22nd Feb., 1892.

SIR,—Referring to your advertisement, inviting fresh tenders for the proposed New Town Hall, and to your architect's communication on same subject, I respectfully decline to submit any tender for the work, and also withdraw my previous tender for same work.

ALEX. WHEELAN.

Mr. Fowler—Before the tenders are opened, I have a few observations to make, and I think they should be stated before we proceed to open the tenders. I desire to call attention to the fact that, before these works were tendered for, or before plans were ordered to be prepared, there was a distinct understanding that this board should not expend on the construction of the Town Hall a sum more than £5,000. Now, according to the plans that have been approved of, and according to the estimates that have been sent in upon these plans, the amount that the board is likely to pay for the erection of the Town Hall would far exceed the amount of the limit that had been placed on the work at the commencement; and, therefore, I think that the board is not keeping faith with all its members. A great deal of public opinion has been exercised over the Town Hall question, and a considerable number of the largest ratepayers question the propriety of the Commissioners going on with such an extensive work, to the utter exclusion of other works that are almost as necessary as the Town Hall. The policy that this board has been pursuing—a policy no doubt laid down at a time when the board was constituted different to what it is now,—and some people may say that the Commissioners are late in changing their minds as to the site for the proposed hall, or in any alterations to these now before the board. It is not too late for any man to change his mind, when he sees that he is pursuing a course that is not in accordance with his own feelings.

Mr. Treanor—Before Mr. Fowler proceeds further, I would like to know why he wants this matter adjourned?

Mr. Fowler objected to Mr. Treanor's interfering until he had concluded his observations. He would quote a passage from Mr. Ashlin's report in May, 1890:—"If the sum at the disposal of the committee had not been so limited"—to prove that it was decided that only £5,000 should be expended on the hall.

Mr. Dowdall—I think we should proceed to this matter in an orderly way. We have nothing to do with what Mr. Fowler is trying to get at. We are called here to-day to consider whether we are to build the Town Hall or not. We have come here to discuss the tenders.

Mr. Fowler—I claim the protection of the Board. I say that the Board has gone to considerable expense in obtaining compulsory powers to acquire portion of the property of the town for the purpose of carrying on important public works. These sites which were scheduled greatly increased the expense of the act. The compulsory powers acquired under that act expire in August next, and if we absorb all the money at our disposal in erection of a Town Hall, and are unable to proceed with other works for which sites were scheduled, then all the additional expense in connection with our act goes for nought. I

am not against the building of a Town Hall. I propose the following resolution—"That the consideration of the tenders for the erection of the Town Hall be adjourned generally."

Mr. Dowdall—The first thing you should do is to have the tenders opened. What can be gained by adjourning the matter? It was expressly stated in the advertisement in the newspapers that the tenders would be considered on this day. Whatever tender or tenders we have, let them be opened, and then we can discuss Mr. Fowler's motion afterwards, if it is brought forward.

Mr. Fowler said the reason why he wished his motion considered before the tenders were opened, was to prevent any person who tendered thinking that it was from some personal motive he was bringing it forward.

Mr. Todd seconded Mr. Fowler's motion.

Mr. Rice—I would propose, as an amendment, that the tenders be opened.

Mr. Dowdall said he seconded Mr. Rice's amendment. He was surprised at the motion that had been put before them. He would say that these gentlemen were trifling with the board when they told them, after the lapse of four or five months, that we were going to drive money out of the town for the building of the hall that should be allotted to other purposes. Certain members of the board who were of an entirely different opinion that day had even offered to increase the contract price in order to give the contract to another builder. He could not fathom the intention of the members who wished to adjourn the opening of the tenders. They did that, he believed, because a certain gentleman had not tendered.

Mr. Todd—That is wrong. I did not know that Mr. Wheelan had refused to tender.

Mr. Dowdall—I heard it a few minutes before the letter was read, and I presumed that you were also aware of it.

Mr. Todd—I did not know of it until I heard his letter read.

Mr. Dowdall proceeded to say that they knew perfectly well that it was Mr. Fowler's idea to have the Savings Bank re-built and converted into a Town Hall. Mr. Fowler wanted them to abandon an expenditure of £3,000, which they were at in building across the tide.

Mr. Todd—Only £1,500 extra. The bridge was to be built first.

Mr. Small—Colleen Brothers had made one reasonable and two unreasonable objections. The reasonable one was, the question as to the stability of the bridge. They refused to insure another man's work—work with which they were in no way concerned. It was now found that no other contractor would insure the work, as proved by the fact that there were no tenders except that of Mr. Mahood himself. He admired and respected the members of the board who had now found out their error, and agreed at the last moment to decide on the Savings Bank site, and not on the river site, and he was sure that these members would gain the approbation of not only the people living in Newry at the present time, but of posterity.

A vote was then taken on the amendment, "That the tenders should be opened," when there voted—For, 4; against, 7.

The motion, "That the consideration of the tenders for the erection of the Town Hall be adjourned generally," as proposed by Mr. Fowler, was then put to the meeting.

Mr. Treanor—What kind of a motion is that? I think it should be put in a different form.

Mr. Fowler here handed in two notices of motion.

The Clerk said that they should be put in in order.

Mr. Fowler made a remark to the effect that Mr. Doherty should do as the Commissioners told him.

Mr. Doherty—But you were "putting the cart before the horse." I was only wanting to keep you right by putting the motions in their proper order.

[Continued on page 58.]

ORIGIN OF THE CELTS.

For nearly five centuries, although the different provinces and cities of Gaul were distracted by parties and dissensions, yet the inhabitants were able to wage war with advantage, against the Romans, from the time of Brennus to the days of Hannibal. At length, Marius and Cæsar, with their disciplined legions, turned the tide of victory against them. Still, heroism, courage, and patriotism sustained the Gauls, during years of a long-protracted resistance.¹ While the Greek writers refer to the inhabitants of central Gaul under the name of Celts, the Romans chiefly applied to them the designation Galli or Gauls, being the people constituting the far greater portion of France. Among the most important of the Celtic nations were the Arvernes, the Eduens, the Sequani, and the Helvetes. The first three nations often disputed among themselves for sovereignty in Gaul. There were other tribes in the centre and south of that country that held sway in their quarter. The Helvetes formerly occupied part of Germany,² and, proud of their independence, these would not allow to other people supremacy over them. To the north and north-west of ancient Gaul were the Armoricans, thus designated from a Celtic word which signified "maritime," because these bordered on the sea.

The primitive Gauls were composed of many tribes, subject to their chiefs, and having distinct organisation. These were a people of large stature. Generally they had red, brown, or fair hair and blue eyes; their skins being remarkable for whiteness, while their constitutions are stated to have been lymphatic.³ Their government by chiefs was representative, being composed of delegates from the different cantons, and they formed a general council for the whole of Gaul. There everything was decided by a majority of votes.⁴

There were marked distinctions in language, laws, and manners, among the ancient Gauls.⁵ The hereditary succession of their chiefs was a thing not unknown, but it seldom continued for longer than one generation. They were divided, also, in various tribal nations, and these mostly held possession of districts, with which their names had been associated; while these have been territorially identified—at least in a general way—owing to the researches of modern French historians and topographers, who have devoted much time and study to their investigations, aided as these have been by reference to ancient documents, and especially to the works left us by the classical writers. We shall here briefly attempt an enumeration of those Celtic people, who seem to have had the most ancient footing in Gaul, while other races appear to have divided that country with them, so far as we can trace, in historic times.

The people composing the Roman province of Gaul were the Albiques;⁶ the Allohroges;⁷ the Helviens;⁸ the Rutenes;⁹ of

the province; the Sallyens, or Salluviens;¹⁰ the Voconces;¹¹ the Volges;¹² the Deciates;¹³ the Oxybiens;¹⁴ the Sordons;¹⁵ the Caturiges, the Ceutrons, the Graioèles.¹⁶

The people of Belgic Gaul, most likely of German extraction, were the Aduatuques;¹⁷ the Ambiens;¹⁸ the Ambivarites;¹⁹ the Atrebatres;²⁰ the Bellovaques;²¹ the Calètes;²² the Leuques;²³ the Médiomatrices;²⁴ the Menapiens;²⁵ the Morins;²⁶ the Nerviens;²⁷ with their allies, the Ceutrons; the Geidunnes; the Grudiens; the Lévaques; and the Pleumoxiens;²⁸ the Remes;²⁹ the Suessions;³⁰ the Trévires,³¹ with their allies, the Condruces;³² the Eburons;³³ the Cérèses; the Pœmanes; and the Segnes;³⁴ the Trihoques;³⁵ the Vélocasses;³⁶ the Véromanduns.³⁷

The people of Celtic Gaul were the Arvernes,³⁸ with their allies, the Cadurques; Eleuthères;³⁹ the Gabales;⁴⁰ the Vellaves;⁴¹ the Aulerques;⁴² with their sub-divisions, the Aulerques-Cénomans;⁴³ the Aulerques-Diablintes;⁴⁴ the Aulerques-Eburovices;⁴⁵ the Bituriges;⁴⁶ the Carnutes;⁴⁷ the Eduens;⁴⁸ with their allies, the Ambarres;⁴⁹

10 These lived at the mouths of the Rhone, and in the western part of the Var.

11 These were in the Drome and Upper Alps departments, as also in the Isère and Ardèche.

12 These occupied Languedoc from the Garonne to the Rhone, and they had migrated from northern Gaul.

13 These lived on the west side in the department of the maritime Alps.

14 They were in the east side of Var department.

15 These were of the same race as the people of Aquitaine, and they inhabited the eastern Pyrenées and Aude department.

16 These three latter nations were an independent people on the upper courses of the Durance and the Isère, and living in the Tarentaise Mountains.

17 These occupied a part of Namur province.

18 Belonging to the Somme department; their chief city was Samarobria or Amiens.

19 These were settled on the left bank of the Meuse.

20 The people of ancient Artois and a part of French Flanders; their chief city was Arras.

21 These occupied the greater part of the Oise department, and probably they extended to the sea.

22 Probably of the ancient country of Caux, the western and central part of the Lower Seine.

23 These dwelt in the southern portion of the Meuse department, and in the greater portion of the Meurthe and Vosges departments.

24 These extended from the courses of the Upper Meuse to the Rhine, the department of the Moselle, and portions of the Meuse, the Meurthe, and of the Upper and Lower Rhine departments.

25 These lived in that territory comprised between the Rhine and the Escaut.

26 These inhabited the western portion of the Pas-de-Calais department, and these extended along the sea-shore to the mouths of the Scheld.

27 They occupied that country between the Somme and the Scheld.

28 These tribes seem to have inhabited the left banks of the Meuse, from Mézières to Hasselt.

29 From these the City of Rheims appears to have taken its name. Their territory comprised the chief portion of the Marne and Ardennes departments; as also portions of the Aisne and Meuse departments and of the Luxembourg province.

30 From these the present City of Soissons took its name. Their territory comprised the greater portion of the Aisne department.

31 They were separated from Germany by the Rhine, and they occupied all the lower valley of the Moselle, Luxembourg, Rhenish Prussia and Bavaria.

32 Established south of the Meuse, and approaching Aix-la-Chapelle.

33 Occupying part of the Liege and Limbourg provinces.

34 These tribes were east of the Meuse, and north of the Remes and Trévires.

35 These were on both banks of the Rhine; they occupied the central part of the Grand Duchy of Baden and the north part of the Lower Rhine district.

36 They held a portion of the Lower Seine and Eure departments.

37 These were in the northern parts of the Aisne and in the west parts of the Somme.

38 These occupied a vast tract, comprising the actual departments of Puy-de-Dôme and of Cantal, as also a part of those of Allier and of the Upper Loire.

39 These held the present department of Lot.

40 These were in the department of Lozère.

41 These lived in the Upper Loire department.

42 They constituted an extended people, reaching from the Lower Seine to Mayenne.

43 These occupied in Gaul the greater part of that territory corresponding with the Sarthe department; while in Italy a division of them dwelt in Cisalpine Gaul, between the Rivers Oglio and the Adige during the sixth Roman age.

44 These were in the northern and central portion of the Mayenne department.

45 These held the central and southern portion of Eure department.

46 These were a strong nation, having more than twenty large towns subject to them, and the chief of which was Avaricum, now Bourges. Their territory embraced the departments of Cher and Indre, with a part of Allier.

47 These occupied the greater part of Eure-et-Loir, Loiret-Cher and Loiret departments.

48 They lived in the present departments of Saône-et-Loire and Nièvre, with parts of those of Côte-d'Or and of Allier.

49 These were in the department of Ain, between the Saône, the Rhone and the Ain.

the Ambluarètes;⁵⁰ the Aulerques-Brannovices;⁵¹ the Blannoviens;⁵² the Boïens;⁵³ the Segusiaves;⁵⁴ the Esuviens;⁵⁵ the Helvètes;⁵⁶ the Lémovices;⁵⁷ the Lingons;⁵⁸ the Mandubiens;⁵⁹ the Meldes;⁶⁰ the Nitiobriges;⁶¹ the Parisiens;⁶² the Pétrocoriens;⁶³ the Rauvaques;⁶⁴ the Rutènes;⁶⁵ the Sénonais;⁶⁶ the Séquanes;⁶⁷ the Turons.⁶⁸ The Armoricans or maritime people were the Amhivariens;⁶⁹ the Ambiliates;⁷⁰ the Andes;⁷¹ the Curiosolites;⁷² the Lémovices Armoricaens;⁷³ the Lexoviens;⁷⁴ the Namnètes;⁷⁵ the Osismes;⁷⁶ the Pictons;⁷⁷ the Rédons;⁷⁸ the Santons;⁷⁹ the Unelles;⁸⁰ and the Vénètes.⁸¹

To these maritime people, the Calètes, the Esuviens, the Morins, may be added; and, also, to the Celtic tribes we may attach the Nantuates, the Séduens, and the Véraques.⁸²

The people of Aquitaine, supposed to have been of African origin, are thought to have passed from Spain into France. They were distinguished by tribal names, viz.:—The Ausques;⁸³ the Biggerions;⁸⁴ the Cocosates;⁸⁵ the Elusates;⁸⁶ the Gaites;⁸⁷

50 They held the arrondissement of Roanne, in the Loire department.

51 This tribe lived between the Saône and the Loire.

52 These dwelt near Blanot, Saône-et-Loire.

53 They were only a section of the great nomad nation, so called, and of Celtic origin. They were allowed by Cæsar to dwell in the territory of the Eduens, between the Loire and the Allier.

54 These held the ancient Forez, in the departments of the Rhone and the Loire; they extended even to the left banks of the Saône.

55 These were settled in the department of the Orne.

56 These held possession of the country in Switzerland, extending from the north bank of the Lemman to Lake Constance. They were subdivided into four tribes.

57 Their territory corresponded to Limousin, the department of Haute-Vienne and the greater part of Corrèze and Creuse.

58 These held the greater part of the department of Haute-Marne and a fraction of Aube, of Yonne, and of Côte d'Or departments.

59 They were posted between the Eduens and Lingons, and they lived in the ancient country of the Auxois. Alesia or Alise was their chief town.

60 These held the north of Seine-et-Marne department, as also a small portion of Oise.

61 They dwelt in the chief part of Lot-et-Garonne, and in a small section of Tarn and Garonne departments.

62 Their territory embraced the department of the Seine, as also a great portion of the Seine and Oise. Their chief city was Lutetia, now Paris.

63 They dwelt in the department of Dordogne.

64 These probably were of German origin, and they lived on both banks of the Rhine, towards the course of this river at Bâle.

65 They lived in the department of Aveyron.

66 They have been located between the Loire and the Marne. Their chief city was Sens. Their territory comprised portions of the Yonne, Marne, Loiret, Seine-et-Marne and Aube departments.

67 Their territory embraced ancient Franche-Comté, and their principal city was Besançon. They occupied the departments of Jura, Doubs, Haute-Saône, and a part of Haute-Rhin.

68 These occupied Tonnerre province, now the department of Indre-et-Loire.

69 These were placed at the junction of Manche and Ille-et-Vilaine departments.

70 They lived south of the Loire, while their territory comprised a part of Maine-et-Loire department.

71 These occupied the department of Maine-et-Loire as also a fraction of Sarthe department.

72 They dwelt in the greater part of Côtes-du-Nord department.

73 These were fixed south of the Loire, and they held the southern part of Loire-inférieure and the western portions of Maine-et-Loire departments.

74 These inhabited the department of Calvados and a fraction of Eure department.

75 In the department of Loire-inférieure, these occupied the right bank of the Loire.

76 Their territory corresponded with the department of Finistère.

77 These occupied Poitou, the departments of Vendée of Deux-Sèvres and Vienne.

78 Their district embraced the greater part of the department of Ille-et-Vilaine.

79 These occupied Saintonge, Aunis, and Angoumois, the departments of Charente and Lower Charente, and a portion of the Gironde.

80 Inhabitants of ancient Cotentin, department of La Manche.

81 Their territory embraced the department of Morbihan.

82 These three latter tribes were people living among the Alpine regions, between Le Valais and Le Chablais. They dwelt on the upper sources of the Rhone.

83 These were the most powerful of the Aquitaine nations, according to Pomponius Mela, lib. iii., cap. 11. They occupied the central part of the department of Gers.

84 These occupied Bigorre, department of the Upper Pyrenées.

85 These were established on the borders of the bay of Gascony, in the Landes, the southern parts of the Gironde and the northern parts of Landes departments.

86 These inhabited the north-western districts of the department of Gers, and a portion of Lot-et-Garonne department.

87 These dwelt at the confluence of the Gers and the Garonne.

1 See the Rt. Honourable Sir James Stephens' "Lectures on the History of France," vol. i., Lect. i., pp. 19, 20. London, 1851, 8vo.

2 See Tacitus, "Germania," cap. xxviii.

3 According to Diodorus Siculus, lib. v., cap. xxxviii.

4 See Julius Cæsar, "De Bello Gallico," lib. i., cap. xxx.

5 See "Histoire de Julius Cæsar," par Napoleon III., tome ii., liv. iii., chap. ii., sect. ii., p. 19.

6 The Albici, of the Department of the Lower Alps, and north of the Var.

7 Probably of Celtic extraction, inhabiting the north-west of Savoy, and the greater part of Isère department.

8 Inhabitants of ancient Vivarais, the southern part of Ardèche department.

9 Ruteni provinciales, part of a Celtic tribe incorporated in a Roman province, and extending to a portion of the Tarn department.

the Garumnes;⁸⁸ the Ptianes;⁸⁹ the Sihuzates;⁹⁰ the Sotiates;⁹¹ the Tarbelles;⁹² the Tarusates;⁹³ the Vasates or Vocates;⁹⁴ the Bituriges-Vivisques;⁹⁵ and the Con-venes.⁹⁶

(To be continued.)

BELFAST GOING AHEAD:

THE annual meeting of the Belfast Chamber of Commerce was held on the 18th ult., and again the report presented showed still further marked improvement in the capital of Ulster. The President (Mr. W. C. Mitchell, J.P.) occupied the chair.

The honorary treasurer submitted the statement of accounts, which indicated on the whole a prosperous condition of affairs in the Chamber. The balance in hand on the 1st January, 1890, was £94 0s. 9d., while that on the 1st January, 1891, was £82 19s. 4d. The decrease in the balance was attributable to an expenditure of some £30 on furniture. The subscriptions for 1890 amounted to £275, and for 1891, £238 10s. The falling off was due, no doubt, to a number of deaths and a few resignations of members during the year. There was, however, no reason to suppose that they would not in the future be able to more than pull up this decrease, with the growing prosperity of the City of Belfast.

The President, in moving the adoption of the report, said the first subject mentioned—the Larne and Stranraer mail route—had happily been brought to a successful conclusion, after many years of strenuous exertions on the part of the Chamber and others friendly to this service. When the new steamer, which is referred to in the report, is put on the station, there would be a great improvement in the service between the two ports. The work done by the Chamber in regard to the Railway and Canal Traffic Act, 1888, has been the most important of the year, and it may also be said the most successful. The original proposals of the Board of Trade regarding minimum rates were reduced, and the terminal charges were more clearly defined. The contributions made by their city to the Imperial Exchequer were to some extent an indication of their commercial prosperity, the only ports exceeding her in revenue being London and Liverpool. The Customs revenue of the port for 1891 amounted to £247,528—an increase over 1890 of £119,802. The total tonnage cleared from the port during last year amounted to 1,931,177, as against 1,840,666 for 1890, while the revenue of the port for last year was £131,533. The value of the whole property under the jurisdiction of the Belfast Harbour Commissioners now amounted to the enormous sum of £1,360,973. The total linen goods exported during the past year amounted to 155,439,201 yards, the value being returned as £5,031,666, as compared with 148,039,800 yards, of a value of £5,710,168, for 1890. The values given in regard to linen goods cover other linen goods besides the piece goods of which the yards have been mentioned. The sowing of flax in Ireland had fallen off greatly during the last three years, the whole acreage for 1889 being 113,652, in 1890, 96,896, and 1891, 74,672.

Mr. John Greenhill seconded the motion.

⁸⁸ These lived in the southern districts of Haute Garonne department.

⁸⁹ These seem to have occupied, or to have been near, Pau and Orthez.

⁹⁰ These appear to have inhabited the old territory of Soule, in the Lower Pyrénées.

⁹¹ These probably dwelt in the south-western portion of Lot-et-Garonne department, as also in a portion of the departments of Landes and Gers.

⁹² These occupied that country which borders on the Gulf of Gascony, in the departments of Landes and the Basses-Pyrénées.

⁹³ These have been placed on the Adour, in ancient Tursan, the south-eastern portion of Landes department.

⁹⁴ These were in the territory of Bazas, the south-eastern portion of the Gironde department.

⁹⁵ These were the most northern Aquitaine people living in the Gironde department.

⁹⁶ These formed a confederacy of small tribes established in the valleys of the Upper Pyrénées, and in the southern districts of the Haute-Garonne department. The two latter-mentioned nations are not alluded to by Cæsar.

Mr. R. L. Patterson was glad to notice that the irregularities which had been referred to in connection with the short sea service were being brought under the notice of Parliament, as they might thereby be speedily remedied.

The report was then adopted.

THE BISHOP ROCK LIGHTHOUSES.*

THE author, in the first place, referred to the importance of the Bishop Rock as a lighthouse station, which had increased with the growth of the national commerce, and to the efforts made by the Trinity House to meet the changing maritime conditions. He then described the position of the rock with regard to the Atlantic, and the enormous wave-pressure to which it was exposed. At the level of low-water spring tides, the Bishop Rock was 153 ft. long and 52 ft. broad, from which level it ran down, sheer and steep, some 20 fathoms or more. An outline of the history of the lighthouses on the Rock was next given. The first was an open structure of wrought- and cast-iron, designed by the late Mr. James Walker, past-president Inst. C.E. It was begun in 1847, under the superintendence of the late Mr. N. Douglass. This was swept away, when all but completed, in a heavy storm on the 5th February, 1850, a disaster probably caused by the sea striking the closed portion of the building above the iron columns. The second lighthouse, begun in 1851, from the designs and under the direction of the same engineers, was of granite. The tower was finished in 1858. As illustrating the initial difficulties, the author stated that on the most exposed side of the rock, at the level of 1 ft. below low-water spring tides, the lowest stone was laid, for thus only could the greatest possible diameter of the base permitted by the area of the rock surface be obtained. In spite of many daring and persevering efforts to lay this stone, the work was not accomplished before the end of the year 1852, although work at a higher level was proceeded with. The third lighthouse, a practically new structure, was begun by the author in 1882 and completed in 1887. It was to the description of this work that the paper was mainly devoted.

The granite tower of the second light having shown signs of weakness, it was strengthened internally in 1874 by bolting heavy iron ties to the walls and floors. Still the storms told on it, and it was finally determined, if possible, to re-model and at the same time raise it to a foremost place among rock lighthouses. The improvements carried out consisted of:—

1. An outer casing of granite masonry dovetailed horizontally and vertically from the level of the foundation courses of the original granite building to the service-room floor.

2. The entire removal of the structure above this point, and the addition of four new rooms, the walls of these rooms being built of dovetailed through stones.

3. The provision of a lantern and illuminating-apparatus surpassing in point of power all similar installations to be met with at the present time in rock lighthouses.

4. An increase in the height of the mean focal plain of the light above high-water at ordinary spring tides from 110 ft. to 146 ft., by which an extension of the nautical range from 16 to 18½ miles was obtained.

By means of diagrams and written description, the author showed from point to point the progress of the work, carried on often in a heavy sea, with granite blocks ranging in weight from 2 to 3½ tons. The light was maintained during the progress of the work, a temporary light being exhibited from a lantern attached to the central crane, in which was placed a catoptric illuminating apparatus, having a high intensity in the beam, and of a character similar to the light designed for the improved tower.

* Abstract of Paper by Mr. W. T. Douglas, read at Institution of Civil Engineers (London), on 23rd ult.

The present lantern 14 ft. in diameter and 15 ft. high, contained a biform optical apparatus of the greatest focal distance, viz., 1,330 millimetres, hitherto installed in a lighthouse. Each tier was composed of ten lenses of 36 degrees, subtending a vertical angle of 80 degrees. The light was double-flashing, of one minute period. In clear weather the apparatus transmitted to the horizon a light of 40,000 candles. When the atmosphere was impaired by the haze or fog, the beam sent through the denser atmosphere was of a power of 230,000 candles. Not the least important improvement was the replacing of the old fog-hell by a gun-cotton explosive fog-signal attached to the lantern. This type of fog-signal was now in successful operation at five rock lighthouses in the Trinity House service where there was no space available for the working of the siren type of fog-signals used at shore lighthouses and on board light vessels. In the five years before 1888, six wrecks occurred, in time of fog within a radius of five miles from the Bishop Rock. Since that date, foggy weather had led to no casualties in that portion of the sea.

THE TYPHOID EPIDEMIC.

WE print some more extracts from Mr. W. R. Maguire's Report to the Public Health Committee of the Corporation, which are accompanied by illustrations of Drainage Plans by the author, published by his kind permission:—

The soil on which Dublin rests is saturated with impurity; it is becoming more and more polluted year by year, as I will explain; and unless we find a means to free it from this malarial condition, we may expect the natural results to follow. As the pores of charcoal, sand, and sponge in a filter clog with the impurities deposited by the passage of the water, and become eventually so saturated with filth as to return it again to the passing waters, we may expect to find much of the soil of Dublin in a similar state; and if the ground be polluted with the germs or spores of typhoid, the air and water will carry and distribute them. Dublin, however, is not alone in this respect; many cities in the United Kingdom have a much worse record, and say very little about it. We are not afraid to own our shortcomings, because we are earnestly trying to amend them, and thus have half succeeded; we seek to realise attainable perfection. I conceived the suspicion some years ago,—and now I can assert on the authority of one of the leading Dublin physicians,—that one of the most potent causes of the dissemination of typhoid infection and of the increase of the disease among us, is the criminally careless way in which the infected discharges from typhoid patients are dealt with. They are cast into the nearest water-closet or slop-sink without complete, and often without any, disinfection; thence they pass through soil-pipes into leaking drains and public sewers, whence the germs escape into the earth and sub-soil waters, to be distributed in many ways. . . .

Typhoid is undoubtedly communicated by contact with infected discharges, even in the sick room, where scrupulous care may be taken. This danger exists from the very first week of the disease, and continues throughout its course. If the person so infected be in a low state of health, or in a condition to favour the development of the infecting spores, the disease may be communicated. It is said to be communicable through the nostrils to the lungs, where the same germ produces pythogenic pneumonia, and this form of illness is prevalent in Dublin at present along with typhoid.

I have now to draw attention to the state of the drains, through whose defects the poison of typhoid escapes and spreads through the ground, carried by the sub-soil waters and the air, from place to place.

For many years previous to 1884, when the meeting of the Sanitary Congress took place

in Dublin, the method followed by the Corporation in laying the drains from houses across under the streets to the main sewer, was nearly as bad as it could be. When laying new pipe drains, the street was opened along the line of the old built rubble drain; and without either following the best course for the new drains, or providing a proper concrete foundation, 9-in. diameter pipe drains were laid on the bottom of the excavation on whatever ground offered, without any reliable jointing material. These 9-in. drains were double the size they should have been, and never could be properly flushed and cleaned out. They soon lost whatever level or gradient they were given, the drains sinking into the soft earth here and there; the water, carrying polluting matters with it, leaked out daily into the sub-soil, and was often expended by leakage before it had transported the solids into the public sewer. These solids remained in the drain, and accumulated there till the drain choked up, thus further increasing the leakages into the sub-soil. Thousands of drains have been laid, and now exist, on this dangerous system, under the streets and squares, each and all daily adding pollution to the underground waters, and through them spreading infection in the direction of its flow.

The Borough Surveyor at that time (Mr. Parke Neville) stated that he was in favour of smaller than 9-in. diameter drains; but public opinion compelled him to adopt the large 9-in. drains. It was Mr. Neville's opinion, in common with many others at that date, that such drains should be laid with open joints, or only jointed with clay, for the very insufficient reasons that the open joints drained off the sub-soil waters, and that, in case of cleansing or alteration, the loose pipes could be lifted without breaking.

After the Congress had met, where Sir R. Rawlinson and other sanitary engineers had condemned in unqualified terms such mistaken methods, cement joints were allowed by the Borough Surveyor; and, on the accession of the present Borough Surveyor to office, I am proud to say that the 9-in. pipes were allowed to be superseded, on a demand being made for the more suitable 6-in. diameter pipes with cement joints.

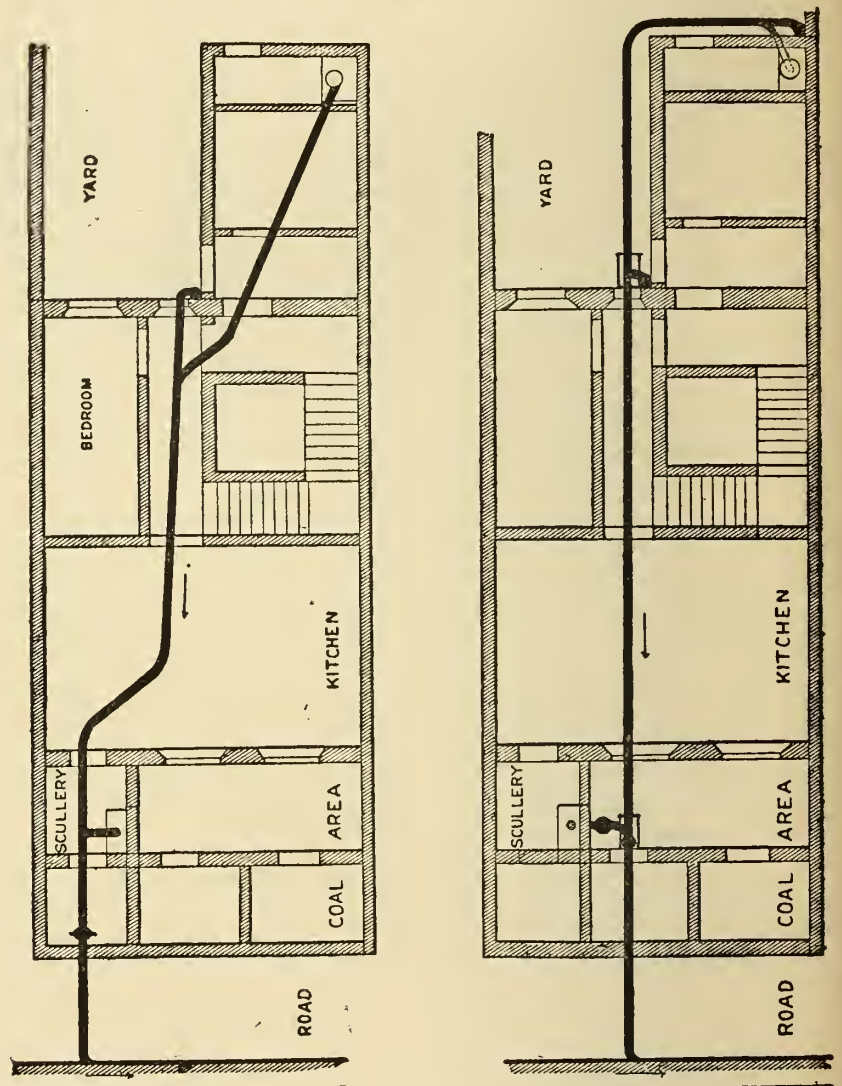
There is still much to be done in this one matter, and I earnestly trust—indeed I feel sure—that Mr. Harty, among the multifarious and pressing duties of his responsible office, will be able to support my recommendations, and sanction, with the weight of his opinion, my proposals to this committee; indeed, he had already signified his approval of them before I had any thought of being a member of the Public Health Committee, and I have just now learned from him that new bye-laws are drafted to cover these details.

Drains are now still, sometimes, laid in the old courses of the old drains they replace; very frequently these start from the scullery coal-vault under hall-door steps, which is always in direct open communication with the house. It is an initial mistake, and in many instances allows the public-sewer air to pass along outside the drain-pipe into the house, either through the earth laid loosely round the pipe, or through rat-holes burrowed alongside the pipe from the sewer. Of course this sewer air, once passing into the coal-vault, is drawn thence through the scullery into the kitchen and into the house, polluting all food it may come in contact with.

I know that the drains of many first-class houses in Dublin pass under some portion of the houses next them, instead of going out direct to the public sewer; and that the right of easement has been claimed, to prevent a wholesome reform. I know numbers of houses wherein the drains and sanitary arrangements have been remodelled and made safe, at much expense; but these improvements are rendered nugatory by the dangerous condition of the drains and fittings in the houses at either side. To remedy the widespread defects in Dublin house-drainage, I offer practical suggestions; but, in order to carry them out, I am certain that you

must give the Surveyor power to employ a specially qualified inspector for the supervision of the connecting house-drains alone—the inspector of sewers has as much as he can do in looking after public sewers. I suggest one very important question for your consideration—That in every street about to be newly paved, all the connecting drains should be lifted and renewed on the lines laid down; householders who have defective drains, to be compelled to pay the expenses of their own new drains, unless they had been imperfectly laid within the last ten years by the Corporation workmen.

velocity; probably the falls were calculated for sewers running one-third or half full. In other sewers, such as the sewers of O'Connell-street, Charles-street, &c., on the north; D'Olier-street, Westmoreland-street, Fleet-street, Parliament-street, &c., on the south, up which high tides back to basement levels, and sometimes further, if it happens that the tide-flap valves on them are not acting, deposits sometimes are left which must be cleaned out by hand labour. The cure for this latter evil will be completed by the new main drainage intercepting sewers: it could be effected in no other way. The



Dangerous Drain-course through Scullery.

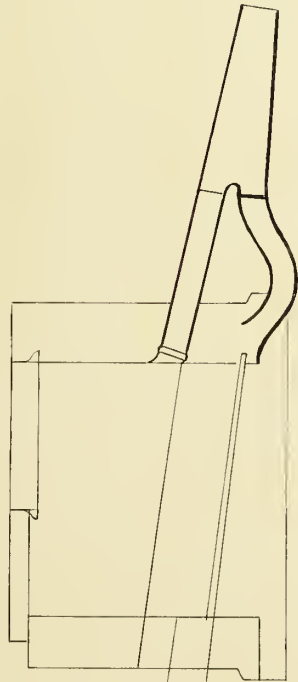
Safe Drain-course from Area to Area.

In the great majority of cases, the house drains enter the sewers 9 in. over the invert, and so, if it happens that sewers run more than 9 in. deep, the sewage must back up the house drains; and this also is a very strong reason indeed for the drains to be absolutely water-tight. There are some 12-in. pipe sewers in Dublin, into which the house drains are entered by right-angle junctions, instead of by junctions splayed in the direction of current; these must be liable to choke. There are built main sewers running close to the front lines of some important dwellings, and actually under other dwellings, which I do not feel able to deal with at present, although they may be dangerous to health. The Borough Surveyor has constantly complained that sewers which are laid with self-cleansing falls are prevented from so acting by foreign matters being allowed improperly to pass into them, so that they periodically require to be cleansed by men sent down with shovels and buckets. The Borough Surveyor does not think that sewers run so full that the sewage will back up the house drains; but if not, I fear they will not generally produce self-cleansing

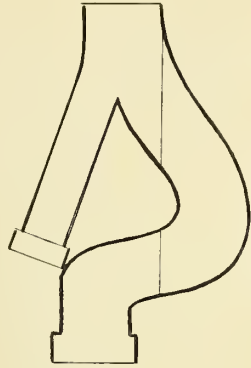
Liffey will no longer send the filth of the city back through sewers and drains, and through the pores of the land, to poison the gravel sub-soil along its banks.

I am informed also that there are some house drains connected with sewers which have been deepened, and in a very extraordinary fashion. Though the sewers have been deepened some feet, and the house drains remain on the original high level, they are not entered into the sewer at the high level, but the entry or inlet-block is fixed during the building of the new low inverts, invariably about 9 in. over the invert, perhaps 1, 2, or 3 ft. lower than the house drain. Then connection is made from the house drain to this lower inlet-block by a sudden drop drain, perpendicular, with the result that the drain, if choked, cannot be got at to cleanse from the sewer, and if rods are passed in from the house, they strike against the wall of the perpendicular drain, instead of passing clear into the public sewer.

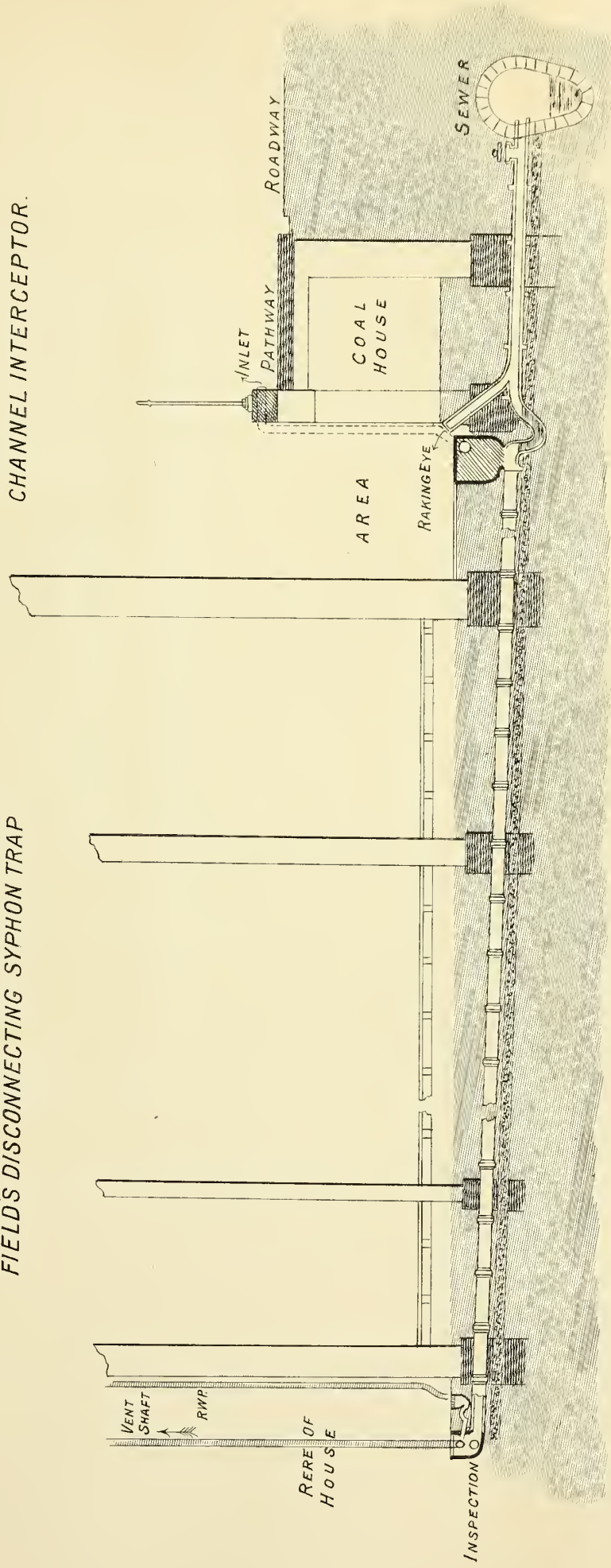
I urge that no drain shall be again laid from vaults in communication with the house, when by any reasonable means they can be laid from an open area; and in certain cases



FIELD'S DISCONNECTING SYPHON TRAP



CHANNEL INTERCEPTOR.



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where there are, unfortunately, no open areas, then only with the surveyor's special written consent. That wherever new drain connections are thus laid, old drains at present leading from the house direct shall be opened down on, and foul soil removed, and earth filled in and rammed with fresh earth, carefully building up the old openings in cement, both in wall of sewer and in wall of house. That proper connecting blocks shall be built into the sewers in cement at proper level, and pointing in direction of flow, to receive the new 6-in. or 5-in. drains.

I earnestly recommend that no house drain shall again be laid in Dublin by the Corporation, until a foundation be laid down of Portland cement concrete (6 clean, sharp gravel to 1 best Portland cement), of rectilinear section, 9 in. wide, and 4 in. to 6 in. deep, according to nature of ground, every inch in length of the drain being supported on concrete after being laid with a fall on the invert from the area to the sewer intake, of not less than 1 in 50 for 5-in. drain, or 1 in 60 for 6-in. drain, and that a T piece or access pipe be connected next to the sewer, with an earthen cover to be cemented down so soon as the drain, when laid and set, has been tested by the hydraulic test, and passed; and further, I urgently recommend that it be ordered that the Corporation shall supply in future the interceptor trap on the house side of this drain in the open area, of such form and diameter as shall be determined by the Surveyor as best. (See diagram.) I urge this, because the most unsuitable traps in form and size are being used by unskilled contractors; because thousands now in use are foul, and hundreds are choked up with foul solids, owing to their constructional defects, and unsuitability and inaccessibility. I recommend that 4-in. and 5-in. traps are better than larger traps for all ordinary houses, even when old 9-in. diameter house drains exist behind them; they flush out much more thoroughly at each ordinary discharge from w.c.'s or troughs, and very rarely choke, except from improper usage. I recommend that whatever form of trap is chosen shall be one always easily accessible for examination and cleansing. I recommend that a splay junction or raking arrangement be fixed beyond the interceptor trap, either as part of the trap or as a separate junction piece, so arranged as to allow a drain-clearing machine to be passed through to the public sewer, to cleanse the drain if choked from any cause, without having to open the ground to do so, the end of this access eye to have a proper E W stopper, and to end at some point above ground, so that if the stopper be negligently forgotten to be put in place, for be badly secured, no sewer air can pass from thence into the house drains unperceived. I urge on this Committee the absolute necessity for the Corporation to undertake and supervise this portion of the house drainage; if properly done by your men under skilled superintendence, you exclude all sewer air from houses, and you leave the fittings inside the interceptor to be dealt with by the house-owner, under your bye-laws.

THE CORPORATION AND THE HOUSING OF THE WORKING CLASSES.

Mr. C. P. Cotton, C.E., held an inquiry on the 19th ult., into the application of the Corporation for a loan of £13,000 for the purpose of providing dwellings for the working classes on part of the city estate at Blackhall-street, Blackhall-place, and North King-street.

Mr. MacSheehy, Law Agent to the Corporation, stated the steps which had been taken in the matter. The old leases of the Corporation estate in the localities named had now fallen in, and as the houses were in a dilapidated state, it was proposed to convert such of them as were fit into artisans' dwellings, and to erect small houses for labouring people on other parts.

The Lord Mayor, Mr. Spencer Harty,

C.E., and Mr. O'Donnell, City Accountant, having been examined in support of the project.

Mr. W. Moore said the governors of the King's Royal Hospital, Blackhall-place, opposed this project so far as it related to the adaptation of houses in Blackhall-street. The governors were the owners of a considerable number of houses in that street which had been leased. These leases would expire on the 21st of next month, when the governors proposed to place the houses in proper repair, and they had no doubt they would be able to re-let them as residential holdings, and thus regain for the street the character it had borne until recent years. Indeed, parts of it were still occupied by professional men. If the Corporation put their houses into proper repair and re-let them as residences it would be a better investment, but if they persisted in converting half the street into tenement houses the property in the entire street would be seriously deteriorated. There was great demand in the district for houses of this class, in the neighbourhood of the Royal Barrack, for military officers and people of that class, who found it impossible to obtain residences at a convenient distance from the barrack. If the course suggested by the governors were adopted there was no doubt the street would become a fashionable place of residence again.

Mr. G. R. Armstrong, agent to the King's Hospital property; Mr. S. Hickey, and Dr. J. A. Baird, residents in Blackhall-street, were examined in support of Mr. Moore's statement.

Mr. MacSheehy said the Corporation had expressed their willingness to let the houses to the hospital governors at a reasonable rent, provided they undertook to put them into repair, and guaranteed to let each house to one family only.

Mr. Armstrong said the governors had never heard that before, and it was a matter which, no doubt, would be carefully considered.

Mr. Moore said the governors would give proof of their *bonâ fides* in this matter the moment the leases fell in, and they would ask the Corporation to hold their hand in the meantime.

The Lord Mayor said the committee having charge of this matter had not heard of the intention of the governors in regard to their own property.

The inquiry closed.

NOTES OF WORKS.

It is proposed to erect in Dublin a memorial statue in memory of the late Lieutenant W. R. Hamilton, and those who fell with him at Cabul.

Raphoe Cathedral is yet another edifice requiring attention from the hand of the restorer. The work of restoration has been entrusted to Mr. Thomas Drew, who estimates that a sum of £1,000 will be required.

A committee has been formed in Belfast for the purpose of taking steps to perpetuate the memory of the late Bishop of Down and Connor and Dromore. No decision has yet been made as to the form the memorial should take.

St. Mary's Cathedral, Limerick, requires restoration, and it has been suggested that the Freemasons of that city should take in hands the work required on the west front, as a suitable memorial of their late Provincial Grand Master, Sir James Spaight.

The Training School, Kildare-street, is having a new organ erected by Mr. T. W. Magahy, of Lower George's-street, Cork. The instrument has two complete manuals from CC to G in alto., with separate pedal organ from CCC to F full compass; sixteen stops. The case is of maple, with ornamental fittings. The key-board is at side of organ, which is furnished with a hydraulic bellows.

A new Hospital for Consumption is about to be erected in Belfast, from plans prepared by Mr. Victor Craig, architect. The building is to accommodate sixty patients, and will be so constructed that one or more additional wards may be added, as required, without inconvenience. The heating, ventilating, and sanitary arrangements will receive particular attention. Separate entrances will be provided for patients and house officials. A hoist will be fitted for service in connection with the kitchen.

Three handsome stained glass windows have been lately erected in the east end of Bruff Church, Co. Limerick, by Richard Bayly, Esq., J.P., of Green Park, and his daughters, to the memory of the late Mrs. Bayly; also as a memorial to her son, Lieutenant James Bayly, who died at Cairo. The subject is "The Sermon on the Mount," the Saviour forming the leading figure in the centre light, with groups of listeners on either side. The windows are the work of Messrs. Mayer and Co., of Munich.

The parish church of Donaghcloney, to which a chancel was added a few years ago from the design of Mr. Thomas Drew, R.H.A., has just been further improved by the completion of the original plans of the architect. These improvements consist of a step of red Cork marble beneath the communion table, and the arcing of the north and south walls of the chancel, above the carved panelling, with handsomely-moulded pilasters, on which rest the corbels supporting the hammer-beams of the oak roof.

A handsome pulpit and prayer desk have been erected in Banagher Church, the gift of Mr. and Miss Bird. The materials used in the pulpit are Caen stone, relieved with dressings of rich colored marbles in elaborate mouldings, capitals, and cornice. It rests upon a base of polished marble, and is furnished with a neat wrought-iron and brass handrail, brass reading-desk, &c. The prayer-desk corresponds in detail with pulpit, all being in harmony with the architecture of the church. Messrs. C. W. Harrison and Sons were the sculptors.

A large three-light stained glass window has lately been erected in the south transept of St. Nicholas' Church, Cork, by the parishioners and friends of, and as a memorial to, the late Dr. Webster, for thirty-three years rector of that parish. Each light of the memorial window contains two major subjects—one taken from the Old, the other from the New Testament. The subjects have been selected as typical of the character and life of the man whose memory they are to perpetuate. The first of the three lower subjects is "Abraham sacrificing Isaac"; the second, "Eli teaching Samuel"; and the third, "Zerubbabel restoring the Temple." Over them, and occupying the central positions of the window, are the three subjects from the New Testament—the first representing "John the Baptist before King Herod"; the second, St. Paul preaching at Athens; and the third, "The parable of the Good Samaritan." Above the lights, surmounted by a rich canopy, are the figures—Faith, Hope, and Charity, the latter, in the centre light, being surrounded by children. In the canopy work are shown six shields bearing the emblems of the Armour of God. Above the three lights is a rose window, in the centre of which is represented "The Descent of the Holy Ghost," in the form of a dove, surrounded by twelve cherubim. The following is the inscription:—"To the Glory of God, and in memory of George Webster, D.D., for 33 years Rector of St. Nicholas, and Chancellor of St. Finn Barre's Cathedral, Cork. Died December 17th, 1890, aged 60 years." The work has been designed and carried out by Mr. Alfred O. Hemming, of Margaret-street, London.

TENDERS.

For certain works for the supply of water to the town of Carnew, for the Shillelagh Union Sanitary Authority:—

William Baird, Dublin (accepted) .. £976 17s. 6d.

TORY ISLAND LIGHTHOUSE, COUNTY DONEGAL.*

THE buildings of this light station consisted of the granite lighthouse tower, rising to a level of 60 ft. above the yard paving, and having an internal diameter of 11 ft. 9 in., dwellings for the keepers and for the mechanics employed in connection with the gas-works, gas-holders, gas-house, coal-stores, purifying-shed, station-meter-house, and siren-house. After giving a brief account of the lighthouse previous to alteration, the author proceeded to describe the works carried out, in substituting gas for the old oil-light, which was extinguished on the 6th April, 1887. The new illuminating apparatus was a Wigbam triform gas-light of the latest construction, formed by three superincumbent tiers of lenses. In the focus of each tier was placed a 108-jet gas-burner, making, when full on, a total of 324 burners, practically equal to 9,000 candles. The hyper-radiant long-focus lenses used were capable of making the light from the three burners equal to about 7,000,000 candles, according to Allard's formula. A complete siren-installation was also provided. The construction of the lenticular apparatus was described, as also the devices for producing "group-flashing." Groups of flashes were produced by breaking-up the full beam from the lens by continually shutting off and turning on the gas. This was accomplished by a cam, fixed on the rotating clock-work placed under the lens-table, from which a connecting-rod rose up through the lantern, shutting and opening the valves of each burner at the same moment. The result was that the mariner saw a group of shorter flashes instead of one long flash. A detailed account was given of the various operations rendered necessary in removing the old lantern. This was done without causing any interruption in the light, a temporary lantern, similar in arrangement to those used in light-ships, having been employed in the interval between the extinction of the oil lamp and the illumination by gas. The temporary lantern was attached to a mast fixed outside the tower, to which the mast was properly needled and guyed. Access to this lantern was by means of ladders from the tower gallery. A salient feature of the light station on Tory Island was the gas-making plant. This comprised a bench of seven cast-iron D-shaped retorts set in firebricks, and tiles built in fireclay. The mouthpiece of the retorts projected 10 in., and had faucets cast on to take the ascension pipes. These were of $\frac{3}{4}$ -in. metal, and tapered from 4 to 5 in. in diameter, being connected with a 12-in. hydraulic main over the bench. The gas from the hydraulic main passed into a condenser, and then by a 4-in. pipe to the vertical scrubber. From the scrubber the gas proceeded to two dry-lime purifiers, and thence to the station-meter, which was capable of passing 1,000 cubic ft. per hour, and finally reached the gas-holders, two in number, each 25 ft. in diameter, and 10 ft. deep, with a rise of roof of 1 ft. 9 in. The framing of the gas-holders consisted of four cast-iron columns 12 in. in diameter, and 9 ft. high, bolted down to piers in the walls of the tank. The siren-installation consisted of two 8 h.p. Otto gas-engines resting on concrete-block foundations, two air-compressors driven by belting, and capable of utilising the full power of the gas-engines, two air-reservoirs 4 ft. 6 in. in diameter and 7 ft. high, and two sirens revolving at the rate of 1,200 revolutions a minute, with trumpets rising through the roof. On each air-receiver was fixed a safety valve to blow off at 40 lbs. per square in., and a pressure-gauge to record 80 lbs. per square in. A 750-gallon water-tank was provided for the use of the gas-engines, as also a gas-regulator and gas-bag. In case of breakdown of gas-apparatus, an arrangement was provided, whereby in a few seconds a six-wick oil light could be substituted for the bottom gas-light. The oil-light could be

shut off by clappers made to open and shut round the light, so that the group-flashing system was retained.

THE DUBLIN MAIN DRAINAGE SCHEME.

On the 19th ult., Mr. Charles P. Cotton, Chief Engineering Inspector, Local Government Board, held an inquiry into the application made by the Corporation to the Local Government Board, for their sanction of loans of £278,000, for the purpose of carrying out the proposed main drainage scheme for the city, and of £13,000 for the building of artisans' cottages in Blackhall-street, Blackhall-place, and North King-street.

Mr. Samuel Walker, Q.C.; Mr. R. Adams, Q.C.; and Mr. M. C. Macinerney (instructed by Mr. MacSweeney, Law Agent to the Corporation), appeared for the Corporation.

Mr. Overend, Q.C., and Mr. G. Walker (instructed by Mr. Edward Fitzgerald) appeared for the Port and Docks Board.

Mr. J. H. Campbell (instructed by Messrs. D. and T. Fitzgerald) appeared for the Pembroke Township Commissioners.

Mr. Overend, Q.C., and Mr. Drury (instructed by Messrs. D. and T. Fitzgerald) appeared for the Pembroke and Rathmines Main Drainage Board.

Major D. Villamil, R.E., represented the War Office; and Mr. Dixon, B.L., appeared for the Dublin Sanitary Association.

Mr. Walker, Q.C., explained the nature of the inquiry, and the petition of the Corporation as to the loan of £278,000.

The Lord Mayor, in reply to Mr. Adams, Q.C., said that for the past thirty years the question of main drainage had been before the city. In 1890 an act was passed empowering the Corporation to spend a sum of £350,000; but the tenders received amounted to £775,000; and, when amended, the lowest was £411,000. Since that time the water-closet system had been introduced into Dublin, and it greatly increased the discharge of sewage into the river. Last year a committee of the Corporation sent the Borough Surveyor (Mr. Spencer Harty) to London, to engage Sir Benjamin Baker, but they were informed that his other occupations would not permit him to take up the work; and, on his recommendation, they engaged Mr. Chatterton. The scheme which had been unanimously adopted consisted of an intercepting sewer from Kingsbridge on the north side down to Marlborough-street, and from Kingsbridge on the south side down to a place on Burgh-quay. There was also a sewer provided for Kilmainham and another for Islandbridge, joining the sewer at Kingsbridge. There was another sewer for the Clontarf district, coming down to Marlborough-street, and joining the northern sewer. Then there was a syphon under the river, joining the north and south systems. The line of sewers proceeded through Hawkins-street, Townsend-street, and Brunswick-street, passing under the Grand Canal Dock, beside the Gas Works, down the Ringsend-road, passing under the Dodder, then into the Pembroke Township, and down a low level to the pumping station. It was then discharged into the outfall running along parallel to the Pembroke and Rathmines main outfall sewer, round the Pigeon House Fort to the White Bank, where the precipitation tanks were. At the White Bank the sewage would be stored in tanks, and chemically treated. The solid sludge would fall to the bottom, leaving the clarified effluent, which would be precipitated into the river in a harmless condition. It was proposed to construct a specially-designed steam barge, into which the solid matter would be pumped, and then carried out to sea. The Corporation committee had visited Sheffield, Barking, Surbiton, Ely, Kingston, Richmond, and Chiswick. In all those places they had seen the precipitation scheme working successfully. Believed the estimate of £278,000

a fair one for the work. The citizens would be quite willing to pay 8d. in the pound, he believed. Owing to the recent conversion of the debt, there was a fall in the rates, and this 8d. would not bring them up to the original figure.

To Mr. Overend, Q.C.—The Corporation did not propose to take any part of the lands of the Pembroke and Rathmines Drainage Board.

Mr. Chatterton, engineer of the scheme, examined by Mr. Walker, said he was the originator of the proposed scheme. The sewers would be constructed of Portland cement concrete, with an internal ring of $\frac{4}{3}$ in. of brickwork, laid in Dublin cement. There would be manholes and ventilators every ten yards. The sewer would be thoroughly self-cleansing. The capacity of the tanks would be about 10,000,000 gallons. The annual cost of the sewers would be £7,300.

Mr. Campbell said his clients did not oppose the scheme, but he wished to ask a few questions.

Witness (to Mr. Campbell) said he knew that some of the streets in the Pembroke Township through which the sewers were to pass were narrow, but he believed there would be room enough for them and for the existing sewers. Knew that the soil there was sandy, and that the Corporation would be liable for any damage to property. Had made provision for a strong sea wall, for the protection of the tanks at White Bank. Knew there was frequently a rough sea there, but that would not prevent the carrying away of the solid matter, for he had provided that the tanks should be able to store the stuff for eight days.

To Mr. George Walker—There would be no syphon further down the river than Marlborough-street. No solid deposit would be discharged into the harbour. The liquid effluent which would be discharged into the river would be perfectly innocuous, and it was ridiculous to think that it would have any injurious effect.

Mr. Harty, (City Engineer) examined by Mr. Macinerney, stated that he had carefully considered Mr. Chatterton's scheme, and considered that it was the best that had been submitted.

Sir Benjamin Baker, in reply to Mr. Walker, Q.C., stated that the carrying out of the works of the Underground Railway in London necessitated interfering with the whole main drainage system of London, and caused the execution of works similar to those now proposed for Dublin. These works had to be carried out in variable soil and in narrow streets. Had extensive experience in the construction of harbour works. In this matter of drainage, the difficulties of London were similar to the difficulties of Dublin, but of course on a larger scale. All sorts of proposals had been brought forward for the improvement of the sanitary condition of London. Two years ago he was instructed by the London County Council to make an entirely independent investigation of the whole problem. They placed at his disposal about 50,000 pages of blue books, and at least fifty projects. The advantages of the scheme proposed by Mr. Chatterton were obvious. Had gone into every detail of it, and it met with his entire approbation.

Mr. Mansergh (Westminster) deposed that he was an engineer. Had had very long experience of sewerage works. Had been engaged in the construction of about 100 systems. Went to Melbourne to superintend a scheme, for the Government of Victoria. It was the largest scheme ever devised, and cost five millions and a-half of money. Had examined Mr. Chatterton's scheme, and thought it the best that could be devised for Dublin. There would be no offensive smell whatever from the liquid effluent.

Mr. W. G. Strype, C.E., Dublin, deposed that he was a member of the Institution of Civil Engineers. Had gone into the details of this scheme, and believed it could not be improved upon.

* Abstract of Paper by Mr. D. C. Salmond, read at Institution of Civil Engineers (London), on 23rd ult.

Sir Charles Cameron (Superintendent Medical Officer of Health for Dublin) deposed that he believed the carrying out of the proposed scheme would result in great benefit to the health of the city. Looked upon the nuisance of the River Liffey to be quite small as compared with the evils arising from the sewage being impounded between the tides and remaining so for upwards of sixteen hours, causing sewer gas to escape from the ventilating traps. Under the proposed scheme there would be a continuous flow of sewage night and day.

Dr. Duprè, member of the Institute of Chemistry in Ireland, deposed that this scheme would be as good as any devised, and by far the cheapest. There could be no smell whatever from the liquid effluent, which would be precipitated from the tanks at White Bank.

Mr. Pentland, Chief Surveyor, Irish Board of Works, gave similar evidence.

Mr. Macinerney handed in resolutions passed in favour of the scheme by the Dublin Sanitary Association and the Dublin Chamber of Commerce.

Major De Villamil, R.E., said he was not empowered to say whether the War Department approved or disapproved of the scheme. He was merely sent there to report, and so far as he was concerned he was in favour of the scheme, and would report for it. As it at present stood he had no doubt it would be approved of.

Mr. O' Donnell, City Accountant, said the limit of borrowing powers which the Corporation had, after providing for the loan of £278,000, was £5,072.

Mr. Overend, Q.C., said as far as the Pembroke and Rathmines Drainage Board was concerned, having heard the evidence, they withdrew any objection. As regarded the Port and Docks Board, if the main drain was carried, as on the plan, down Hawkins-street and Brunswick-street, they would not object, but they should object to any deviation on to the south quays. The Port and Docks Board considered that the scheme would be an immense improvement, but they desired to safeguard their own interests.

The Lord Mayor—Do you propose that the Port and Docks Board should compensate the Corporation for the money they save them in dredging?

Mr. Overend—I would sooner leave that to the Board.

Mr. Campbell said as regarded the Pembroke Township Commissioners, for whom he appeared, any opposition they had offered was withdrawn. It was, however, important that Mr Cotton's attention should be called to the fact, that, so far as he could see in this estimate of £278,000, the scheme was not mature as regarded the breakwater at White Bank. No soundings or borings had been taken.

Mr. Cotton—How are the Pembroke Commissioners affected?

Mr. Campbell said in this way, that they believed if an unsubstantial breakwater was built their township would be in danger in the event of a severe storm demolishing the tanks. It was for the purpose of getting information as to the nature and stability of this breakwater that he had attended, and he was bound to say that he had not succeeded very well.

Mr. Bindon B. Stoney, Engineer to the Port and Docks Board, in reply to Mr. George Walker, said it was the intention of his board to deepen a portion of the river to the eastward of Butt-bridge, and if there was any deviation from the scheme, as it at present existed—namely, the bringing of the pipes from Hawkins-street down Brunswick-street, it would seriously embarrass his board in the construction of their work. They had no objection to the proposed arrangements, and, indeed, they were anxious to assist in every way they could in its promotion. He believed the ownership of the Pigeon House wall was vested in his board.

The inquiry then terminated.

SEWAGE PURIFICATION.*

THE author said in the outset that sewage farms, except in very exceptional cases, were an absolute failure. The system was very attractive to the visitor who saw it in full operation, but, as soon as he turned his back, the sewage was often run directly into the stream by an arrangement always provided on the works. With regard to the treatment of sewage, he stated that the precipitating by lime method is one which is at present, perhaps, most extensively employed, because of its comparatively small cost, but the lime leaves the water in the unfortunate condition of being alkaline, and it is found that the presence of that alkalinity rapidly brings about a secondary putrefaction in the effluent, which renders it most objectionable. The next process seems to be that of employing a mixture of lime and some salt of iron, alumina, or both—the iron being preferably in the condition of peroxide. This effects a considerable precipitation of matters from the sewage, but leaves a considerable quantity of organic matters still in solution, and there was one process which purported to further oxidise this matter by filtration through a filter containing magnetic oxide of iron in a somewhat porous condition. The success of this process would, no doubt, depend on whether salts of iron and alumina could be got cheaply enough. At certain parts of the country large quantities were produced as waste products, and in Manchester and the vicinity considerable quantities of free acid and iron oxide were also to be obtained, and it seemed to him that precedence would be taken by the company which could produce this material in large quantities at the cheapest rate. Experiments had been carried on recently at Salford, with a view of finding which was the most efficient process for the expenditure involved. He thought the method carried out generally to discover the best process involved the making of a large number of analyses without giving them satisfactory results, because each process was tried separately on the sewage, which is exceedingly changeable in character, and it was therefore most difficult to find what was the quality of the sewage actually treated to begin with, and this must be taken into consideration when the quality of the effluent obtained by any given process was considered. He suggested that a large central tank should have been arranged to receive the whole of the sewage, and which should have been provided with a stirrer, and that the sewage thus mixed, should have been allowed to flow away, and to be treated by the different sewage processes at the same time. By this means the quality of the original sewage taken could be actually ascertained by analysis, which would serve as a standard for the whole of the effluents obtained from the different processes, and these effluents could again be accurately compared with each other as to their freedom from impurities, and to the cost of production. He trusted that some system such as this would be carried out so that a thoroughly reliable comparison of the different methods of treatment might be obtained.

CORRESPONDENCE.

ST. MICHAEL'S CHURCH.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Allow me through your columns to thank your correspondent, Mr. J. G. Robertson, for his timely correction of the spelling of the name "Denroche" in your issue of the 1st ult. [written in the Parochial Register *Denroache*]. Since my attention had been called to it, I examined the Parochial Register of St. Michael's, and found the above to be

* Abstract of Paper read by Mr. W. Thompson, on "Sewage, and Methods for its Purification," at Society of Medical Officers of Health, Manchester.

correct; but probably by a typographical error, an "o" was inserted instead of an "e," hence the mistake, although I find the name also spelled *Dunroche* in eighteenth-century documents.

Charles Topham Bowden, in his "Tour through Ireland" in the year 1790, tells us that when he visited Cloncal, a small village on the River Derry, in the County of Carlow, he was the guest of Mr. Lacy, a wealthy distiller, who was famous for making good whiskey in that town. Mr. Bowden, after giving an interesting sketch of the place, says:—"I should not omit that I met in this little village one of the most extraordinary characters living. His name is Charles Dunroche. I was informed he never served an apprenticeship to any business, nor had the advantage of a liberal education, and that, notwithstanding, it was from a design, of his drawing, that a new bridge was erected, in preference to many other designs, at the confluence of the Rivers Slaney and Derry. At the building of this bridge he worked as a mason. He surveys land very accurately without the assistance of instruments, and was never discovered materially to err when other surveyors were called in after him, which has been frequently the case. He is considered a most ingenious carpenter, cabinet-maker, and upholsterer. Mr. Lacy showed me some mahogany chairs made by him, which would not have disgraced any cabinet-maker in the metropolis. He draws teeth, bleeds and prescribes when consulted, and attends poor lying-in women about the country, in which arts he is said to be very skilful and successful. In a most eccentric advertisement he proffers his advice to the female sex, on all occasions, gratis, in gratitude for the many favours he has received from them. He is not only a dentist, surgeon, and doctor, but a sort of apothecary also, for he retails medicines. He is often employed in drawing leases and deeds, which he executes as well as any attorney; and his opinion, on a point of law, however complex, determines the hopes and operations of his clients. I went into his house, accompanied by Mr. Lacy. It is but a small cabin; however, it is laid out with great taste and divided into six apartments. On the right, as I entered, his shop is situated, in which I perceived a number of common vial bottles, containing medicines of different colours. Adjoining to this is his surgery and study, from which one door leads to his shop and another to his parlour. On the left-hand he has his laboratory, kitchen, and forge, in which he keeps his various implements of industry. But notwithstanding his extraordinary ingenuity, he can with difficulty realise a scanty subsistence."

I may add, that in 1888, I myself met, in this same village of Cloncal, with a man nearly as ingenious, who was perfectly blind, a skilful musician and a clever carpenter, turner, and also a cabinet-maker. He fills also the responsible position of organist of Cloncal Church.—Yours, &c.,

E. EVANS.

Corn-market.

"IRELAND SIXTY YEARS AGO."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Having read with extreme interest, in your issue of the 15th ult., a letter signed "R." on the above subject, permit me to add that a second edition of "Ireland Sixty Years Ago," appeared in 1849. It was published by Alexander Thom, 87 Middle Abbey-street. This edition was brought out by the learned author himself (J. E. W.), who, in a brief introduction by way of preface, says:—"In this edition some notes are added, and a few corrections made." The edition which your learned correspondent refers to as "Ireland Ninety Years Ago," is, therefore, the third edition of the work, and has been so sadly mutilated as to deprive it of all the originality contained in the two previous editions.—Yours, &c.,

E.

Continued from page 49.

Mr. Treanor again objected to the way the notice of motion that Mr. Fowler had proposed was framed.

Mr. Carey said he thought Mr. Fowler should amend it, and make it more explicit.

Mr. Fowler—Then I propose it in this way:—"That the consideration of the tenders for the erection of the Town Hall be adjourned for six months."

Mr. Treanor—I hope that the gentlemen who vote for this motion will pay Mr. Batt's fees.

The voting on the motion was then taken, and resulted as follows:—For, 7; against, 5.

When giving his vote, Mr. Renshaw stated the reason why he voted against the motion was that he was anxious to see such a large public work as the building of the Town Hall carried out as soon as possible.

Mr. Fowler gave notice that at the next monthly meeting, to be held on the first Monday in March, he would move—"That all resolutions of this board, adopting or approving of the River Site for the Town Hall, and all resolutions consequent upon such adoption or approval, be hereby rescinded, and that the Savings Bank site be adopted as the site for the Town Hall."

For the convenience of the Commissioners, these resolutions (says the *Telegraph*) have been printed, and they fill six large sheets. They form such a record that, after their perusal, it will surprise us if any considerable number of the Commissioners are found hardy enough to persist in the ill-starred course they seem inclined to adopt. We do hope, for the credit of the town and the reputation for common-sense hitherto possessed by those who represent the ratepayers, that the motion will be ignominiously defeated.

The Clerk read the following communication from the architect:—

NEW TOWN HALL FOR NEWRY.

Royal Avenue, Belfast, Feb. 20th, 1892.

SIR,—I observe by the report in the *Newry Telegraph* of the Town Commissioners' meeting, which was held on 8th instant, the following statement made by Mr. Dowdall, a member of the Board:—"That Mr. Batt stated that the Belfast men told him they would not accept the contract, as they had the same objection to it as the Messrs. Colleen. With all due respect to Mr. Dowdall, I beg to contradict this statement, and to inform the Board that such did not take place, as I had no conversation with any of the contractors regarding the conditions of the contract, until Mr. John Colleen called on me on the 13th ultimo, when he spoke about the suggested changes he wanted carried out."

Kindly bring this matter before your Board at their meeting on Monday next, and oblige,—Yours,
WILLIAM BATT.

Mr. Dowdall stated that he did not say it was Mr. Batt who made the statement. He was misreported. It was Mr. Colleen who made the remark.

The following, amongst other correspondence, appeared in the *Telegraph* of 25th ult.:—

"THE TOWN HALL QUESTION."

SIR,—In reading the report of the proceedings at the Commissioners' meeting on Monday, in the columns of your paper, I was in a mood to exclaim with Shakespeare, "A plague on both your houses"—*in esse and in posse*. For a clear, concise, and ingenious mode of solving the paradoxical problem of "How not to do it," commend me to the distinguished board of local administrators who control the municipal affairs of Newry.

For the past ten years there was a "rumour afloat" that a Town Hall for Newry was badly wanted, and that, owing to this fact, no first-class entertainment could be held in the Savings Bank, on account of the limited seating accommodation for the public, and that even a thorough representative meeting of the inhabitants could not be held in the hall. There were no funds at the disposal of the Commissioners until recently, when that body obtained a loan on the rates, and with this money it was fondly believed that no formidable difficulty presented itself. This, alas! was not so. About a year ago plans were prepared—of beautiful design,

no doubt,—and one was selected; but this appeared to be too hurried a proceeding, as the hall would not be required till the next century; and after two months' deliberation, Plan No. 1 was abandoned! Accordingly, plans were advertised for again—a river site having been adopted, so as to give the City of the Yews as much of a Venetian appearance as possible, having at their disposal the Claurye River, which would appear as a miniature Adriatic. A bridge was erected for the foundation, and completed also, when, in the natural course of events, it was thought that nothing stood in the way of the municipal temple being completed.

Again there was a hitch. Contractor No. 1 would not sign the conditions, and the Commissioners re-advertised for builders, when only one responded. It is asserted that another builder (whose workmanship is unsurpassable) would not tender, owing to the scant courtesy he received from the board on a previous occasion. As to this, the Commissioners are the best judges. The board was in a perplexed state, no doubt; and as the representatives of the public, but knowing nothing apparently of their wants, they resolved to put the climax on all their previous efforts, and resolved to build no hall whatever—not, at all events, for "six months," until the process of incubation would enable them to hatch an idea. Thus the matter stands. The tender is not to be opened for six months, and if some of the board can manage matters, it will never be opened. A section of the board believe the river site a bad one, others want the old hall extended (a subject which has been thrashed out), while a few want no hall whatever.

F. T. R.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 45.)

THE Parliaments summoned and held in Ireland, from the years 1559 to 1695, were the following, viz.:—One commencing A.D. 1559, January 1st, and ending the 1st of February following; one commencing 1568, January 17th, and ending 1571, April 25th,—of this no list of members can be found; one commencing 1585, April 26th, and ending 1586, May 14th; one commencing 1613, May 18th, and ending 1615, October 24th; one commencing 1634, July 14th, and ending 1635, April 18th; one commencing 1639, March 16th, and ending 1648, January 30th; during the Commonwealth no parliament was held in Ireland; one commencing in 1661, May 8th, and ending 1666, August 8th; one commencing 1692, October 5th, and ending 1693, June 26th; one commencing 1695, August 27th.¹

The following are the names of the Members of Parliament for the Queen's County found in the Public Record Office of Ireland, with the dates of their election and their respective residences:—1585, April, Warham Sentleger, Esq., knight, Carriglyn, Cork, and Robert Harpoll, Esq., knight, Shrule, Monk's Grange; 1613, April 8th, Sir Henry Power, knight, Chapel Izod, Dublin, and Sir Robert Piggott, knight, Dysart; 1634, July 4th, Sir Pierce Crosbie, knight and baronet, Maryborough, and John Piggott, Esq., Grangebeg, Dysart; 1639, March 5th, Sir Charles Coote, knight and baronet, Castle Ciffe and John Piggot, Esq., Dysart; 1642, July 28th, George Graham, Esq. *vice* Coote, deceased; 1643, November 20th, Terence McGrath, Esq., Alibolane, Tipperary, *vice* Graham, deceased; 1646, March 10th, Francis Barrington, Esq., Cullenagh, *vice* Piggot, deceased, and Gilbert Rawson, Esq., *vice* McGrath, deceased; 1661, April, Thomas Piggott, Esq., Dysart, Long Aston, Somerset, and Chidley Coote, Esq., Killester, Dublin; 1661, June 6th, Daniel Hutchinson, alderman, Dublin, *vice* Coote, for County Galway; 1692, September 26th, John Weaver, sen., Esq., Ballymadock, and John Weaver, jun., Esq., Ballymadock; 1695, August 10th, John Weaver, jun., Esq., Ballymadock, and Robert Warnford, Esq.²

The following are the names of the Members of Parliament for the Borough of Maryborough, with the dates of their election and their respective residences, viz.:

1585, April, George Harvy, Robert Gale, and Thomas Lambyno, all of Maryborough; 1613, April 17th, Sir Adam Loftus, jun., knight, Monaster Evan, Kildare, and Alexander Barrington, Esq., Timoge, Cullenagh; 1634, July 4th, Sir Walter Crosbie, knight and baronet, Maryborough, and Sir William Gilbert, knight, Kilminshy; 1639, March 5th, Sir William Gilbert, knight, Kilminshy, and Nicholas White, Esq.; 1644, November 4th, Henry Gilbert, Esq., *vice* White, deceased; 1661, April 1st, George St. George, Esq., knight, Carrick, Leitrim, and John Gilbert, Esq., Kilminshy; 1661, August, 1st; Alexander Piggott, Esq., *vice* St. George, for County Leitrim; 1692, September 19th, John Weaver, sen., Ballymadock, and St. Leger Gilbert, Esq., Maryborough; 1692, October 13th, Periam Pole, Esq., *vice* Weaver, for Queen's County; 1695, August 3rd, John Weaver, Esq., Ballymadock, and St. Leger Gilbert, Esq., Kilminshy.³

The following are the names of the Members of Parliament for the Borough of Ballynakill, with the dates of their election, and their respective residences, viz.:—1613, April 17th, Sir Thomas Ridgway, knight, Tor Mohun, Devon, and Arthur Brereton, Esq.; 1639, March 11th, William Wandesford, Esq., and William Alfrie, Esq. (Alfrey or Alford); 1640, April, Richard Fanshaw, Esq., *vice* Wandesford, for Lifford, Dublin; 1641, June, Barnaby Dempsey, Esq., Dublin, *vice* Alfrey, vacated by his petition; 1642, July 27th, William Flower, Esq., knight, Dublin, *vice* Fanshaw, and Thomas Leigh, gent., alderman, Drogheda, *vice* Dempsey; 1661, April, Sir Amos Meredith, knight and baronet, and Maurice Keatinge, Esq., Narraghmore, Kildare; 1692, September 27th, John Barrington, Esq., Cullenagh, and Daniel Weaver, Esq., Ballymadock; 1695, August 5th, Sir Edward Massy, knight, Abby Leix, and Walter Weldon, Esq., Rahinderry.⁴

The following are the names of the Members of Parliament for the Borough of Portarlington, with the dates of their election, and their respective residences, viz.:—1692, September 15th, Daniel Gaban, Esq., knight, and Richard Warburton, jun., Esq., Garryhinch, King's County; 1695, August 6th, Sir Joseph Williamson, knight, and Richard Warburton, jun., Esq., Garryhinch, King's County; 1695, Sept. 9th, George Wharton, Esq., *vice* Williamson, for Limerick.⁵

(To be continued.)

NEW YORK CATHEDRAL.—According to the final plans for the erection of the Protestant Episcopal Cathedral in New York, the external length of the building will be 520 ft., while the width in front will be 190 ft., and across the transepts 290 ft. The spire will be 425 ft. high. The building, when complete, will be one of the largest and most magnificent of its kind in existence.

² See *ibid.*, p. 630.

⁴ See *ibid.*, pp. 630, 631.

⁵ See *ibid.*, p. 631.

Illustrations.

DIAGRAMS SHOWING SYSTEM OF HOUSE DRAINAGE.

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¹ See "Parliamentary Papers," Session 17th January—16th August, printed in 1878, vol. lxii., part II., No. 17, p. 604.

² See *ibid.*, p. 630.

THE HISTORY OF
THE CHURCH AND PARISH OF
ST. MICHAEL THE ARCHANGEL,
DUBLIN.

THE PAROCHIAL REGISTER.

(Continued from page 47.)

BAPTISMS.

1841-1872.

1841.

Feb. 28. George, s. of George and Catherine ARMSTRONG.

April 11. Thomas Richard, s. of Harvey and Mary Anne FLINT.

May 9. Matilda, dau. of Samuel and Julia JONES, of 6 Rosemary-lane.

Nov. 28. Robert, s. of John and Esther LAVENDER.

1842.

Jan. 16. William, s. of William and Elizabeth GREENE.

May 1. Anna Maria, dau. of William and Eliza SIMPSON.

Aug. 28. William, s. of John and Elizabeth ROE.

Nov. 20. Adam Mitchell, s. of John and Maria TAYLOR, of Kennedy's-lane.

1843.

March 5. Frances, dau. of William and Dealia BOATE, 10 Cook-street.

April 23. Mary Ann, dau. of the Rev. H. G. BRIEN, of Dungarvan, Co. Waterford, and Elizabeth his wife, born 12th April at 5 High-street.

May 14. Prudence, dau. of Henry and Julia BOUCHER.

Oct. 15. Allen James, s. of Thomas and Jane LONGMOORE.

Oct. 15. Emily, dau. of Samuel and Julia JONES.

Oct. 29. William, s. of John and Esther LAVENDER.

Dec. 3. Margaret, dau. of Stuart and Margaret ROBINSON, of 9 High-street.

1844.

Feb. 18. Robert, s. of James and Mary WADE, 38 Nicholas-street.

March 10. Catherine Thomas Sion, dau. of Thomas and Catherine WILSON, 20 Nicholas-street, writing clerk.

April 28. Anna, dau. of Samuel and Eliza SMITH.

May 19. Elizabeth, dau. of William and Elizabeth HALL.

June 2. William, s. of Edward and Anne NUGENT.

June 16. John, s. of John and Catherine ROBINSON.

July 21. Valentine Charles, s. of Sir Valentine and Julia Sophia BLAKE, of Menlo Castle, Co. Galway.

1845.

Jan. 26. Anne, dau. of Michael and Sarah KEELEY.

Feb. 2. Joseph, s. of John and Sarah Jane FLETCHER, of 11 Nicholas-street, by Rev. E. S. Abbot, prebendary.

July 28. Elizabeth, dau. of James and Elizabeth THOMPSON.

Aug. 10. Robert, s. of John and Arthur LAVENDER.

Aug. 24. Henry Figshy, s. of Henry and Sarah YOUNG.

Sept. 7. John, s. of John and Eliza ROE.

List of Persons from St. Michael's Parish presented for Confirmation in St. George's Church, on 18 July, 1845:—

| | |
|-------------------|------------------------|
| James HANDCOCK. | William BRISCOE. |
| Maryanne BRISCOE. | Thomas Andrew BRISCOE. |
| Rachel REVELL. | James MAHER. |
| Ann REVELL. | |

1846.

Feb. 1. Ann Jane, dau. of George and Catherine ARMSTRONG.

Feb. 15. Catherine, dau. of John and Rebecca HANBIDGE, of 3 Kennedy's-lane.

March 1. Ellen, dau. of Joseph and Mary WHEELER.

May 17. Harriot, dau. of Samuel and Julia JONES.

May 24. William Hector, s. of William and Delia BOATE.

Sept. 20. Leonard, s. of William and Ann PARKES.

1847.

Jan. 17. Isabella, dau. of James and Elizabeth THOMPSON.

May 30. William Magnus, s. of James and Sarah SULLIVAN.

June 13. Francis, s. of James and Ann DARROSS.

1848.

Jan. 2. David, s. of Henry and Julia M'KEE.

April 30. William, s. of Robert and Anne COOPER.

Dec. 24. William Magnus, s. of Edward and Margaret M'CULLEN, of Christ Church.

1849.

Feb. 11. Maryanne, dau. of James and Sarah SULLIVAN.

April 1. Anna Maria, dau. of Thomas and Anne REYNOR, of 7 Corn-market, born Dec. 13, 1848.

May 27 (Whit Monday). Anne, dau. of William and Harriette CHICHESTER, of 8 Grenville-street, baptised by Rev. William Chichester, prebendary.

June 24. Louisa Melicena, dau. of Charles and Mary DOUGLAS, of Kilwamham.

1850.

May 12. Elizabeth, dau. of Thomas and Jane LONGMOORE.

June 9. Lydia, dau. of Samuel and Julia JONES, plumber, 2 Merchant's-quay.

June 16. Thomas, s. of William and Ann PARKES.

June 23. Esther, dau. of Thomas and Ann RAYNOR, of Cornmarket, bapt. by Rev. William Chichester, prebendary.

Oct. 27. George, s. of Robert and Ann COOPER.

Dec. 29. Richard Jones, s. of William and Mary JEFFARES.

1851.

Feb. 16. Margaret, dau. of James and Sarah SULLIVAN.

March 31. Henry David, s. of Walter and Fanchette CARNFORD (servant), of Harristown, Co. Kildare.

Aug. 24. Amstia, dau. of Michael and Sarah KEELY.

Sept. 14. James Philip, s. of James and Alice HANDCOCK.

Oct. 26. Mary, dau. of William and Mary JEFFARES.

1853.

Feb. 27. William Frederick, s. of Samuel and Julia JONES.

Oct. 9. Mary Elizabeth, dau. of Joseph and Hannah RYAN, bapt. by Rev. James Hunter Monahan, curate of St. Michael's.

1854.

Oct. 15. Charles, s. of James and Mary BEVERIDGE (policeman), born at 6 High-street, on the 24 Sept., and bapt. by Rev. James Hunter Monahan, curate of St. Michael's.

Dec. 11. Ellen Charlotte, dau. of Daniel and Mary Catherine ARDRAY, born at 42 Lower Kevin-street, and bapt. by the Rev. James Hunter Monahan, curate of St. Michael's.

1857.

June 10. John Charles, s. of John and Eliza Turner, Quarter Master 50th Regt., Foot, quartered at Ship-street Barracks, bapt. by me George C. Williams, curate of St. Michael's.

Sept. 4. Edith Mahella, dau. of William Ryder CROKER and Letitia Elizabeth his wife, of Alston, Co. Limerick, born 15 August, and bapt. by Rev. George C. Williams, curate of St. Michael's.

1858.

Oct. 8. Matilda, dau. of Thomas and Julia SHAW, of 10 Wellington-street, in the city of Dublin.

1860.

May 27. John Thomas, s. of John Thomas and Margaret WESTROPP, of Attyflin Park, Co. Limerick, born 28 April, and bapt. by me Robert Flemyng, M.A., curate of Michael's.

Dec. 23. Sarah Jane, dau. of Thomas and Julia SHAW, of 18 Upper Dorset-street.

1861.

June 30. Joshua, s. of Thomas and Jane GRAHAM, bapt. by Rev. William C. GREENE, prebendary of St. Michael's.

Oct. 7. Martha Emily, dau. of William and Martha JONES.

Oct. 27. William Cunningham, s. of William and Maria Catherine JEFFS, of 30 Aungier-street, parish of St. Peter, bapt. by Rev. William C. Greene, prebendary.

1862.

April 6. Anna Young, dau. of Andrew Bell and Mary Anne MACKAY, of 5 Parliament-street.

Sept. 21. William, s. of Thomas and Anne LONGMOORE.

1863.

Feb. 15. Robert William, s. of Thomas and Jane GRAHAM.

May 3. Bessie, dau. of Robert and Anne COOKE.

Sept. 20. William Griffith, s. of William and Martha JONES.

Nov. 1. Thomas, s. of John and Eliza DAGG.

1864.

Jan. 10. Samuel, s. of Robert and Mary ABERNETHY.

Jan. 24. Edward, s. of Edward and Eliza CREED, of 73 Francis-street.

Oct. 2. Thomas, s. of Thomas and Jane GRAHAM.

1865.

April 9. Isabella, dau. of William and Mary RICHARDSON, of 55 High-street.

May 21. Clarinda Charlotte, dau. of John and Margaret DUNNE, policeman, of 2 Merchant's-quay.

Sept. 3. Anne Rebecca, dau. of Reuben and Maria Spawton, of 9 High-street.

Oct. 1. Richard Charles, s. of Thomas and Ann LONGMOORE.

1866.

April 1. Blennerhassett John Foster, s. of Chichester Thomas and Amelia SKEFFINGTON, of Drumna Hall, Ballynabinch, Co. Down, born 22 February, 1866, bapt. by Rev. Robert Flemyng, curate.

May 6. James, s. of James and Ellen DARBYSHIRE, of 22 [now 32] Corn-market, born 12 April, bapt. by Rev. Edward Seymour, prebendary.

Oct. 21. Eliza Jane, dau. of James and Margaret Abbott, 55 High-street.

Dec. 9. Edward, s. of Thomas and Jane GRAHAM.

1867.

Jan. 27. Hannah, dau. of Henry and Mary BURGESS, 48 High-street.

May 12. Richard, s. of Richard and Eliza RICHARDSON.

June 16. Martha, dau. of William and Martha O'NEILL, 48 High-street.

July 20. Louisa, wife of Charles Price, of 24 Nicholas-street, and dau. of Eli and Sarah EYERS, born 21 July 1833, bapt. by Rev. Edward Seymour, prebendary.

July 20. Charlotte Elizabeth, dau. of Eli and Sarah EYERS, of Dilton's Marsh, Wiltshire, born 26 April, 1843, bapt. by Rev. Edward Seymour, prebendary.

Sept. 8. William John, s. of John and Eliza BRIGHT, 18 Dalymount-terrace, Phibsborough.

1868.

Feb. 2. Anne Maria, dau. of James and Jane BYRON, 60 South Great George's-street.

April 12. Edward French, s. of Robert Burdett MORONY, Captain 3rd Regt. Infantry, and Catherine Rose MORONY, his wife.

May 17. Anne, dau. of Henry and Maria BURGESS.

June 11. Georgina Adelaide, dau. of Robert George and Georgina Adelaide SEYMOUR, 93 Bushfield-avenue, born 17th April, bapt. by Rev. Edward Seymour, prebendary.

July 5. Mary Agnes, dau. of Robert and Margaret JOHNSTON.

Aug. 19. Mary Anne, dau. of Thomas and Jane GRAHAM.

1869.

Jan. 27. Sarah Jane, dau. of Richard and Bridget GILL.

May 16. Anne, dau. of Thomas and Anne LONGMOORE.

June 20. Lucy, dau. of William and Catherine ROCK.

Dec. 26. Emily, dau. of William and Martha O'NEILL.

1870.

- Feb. 13. Anthony, *s.* of Henry and Mary BURGESS.
 May 1. Mary Eliza Jane, *dau.* of John and Eliza BRIGHT, 18 Dalymount-terrace, Phibsborough.
 May 22. Arthur, *s.* of Peter and Julia SMITHSON.
 Sept. 18. Sarah Elizabeth, *dau.* of John and Mary Anne O'CONNOR, 1 Store-street, Dublin.

1871.

- April 28. Annie Simpson, *dau.* of Edward and Annie VAUGHAN, 9 High-street, upholsterer, born 2 April, bapt. by Rev. Edward Seymour, prebendary.
 Aug. 13. Anne Jane, *dau.* of James and Mary DARBYSHIRE, 22 Corn-market.
 Nov. 26. Jessie Adela, *dau.* of Francis Henry and Adelaide Elizabeth MORAN, Ship-street Barrack.
 Nov. 26. Anne, *dau.* of William and Martha O'NEILL.
 Dec. 24. Edward, *s.* of Henry and Mary BURGESS.

1872.

- May 19. William Albrough, *s.* of John Armstrong and Emily RICHARDSON, 4 High-street, born 21st February, bapt. by Rev. Robert Flemyng.

END OF BAPTISMS AND OF THE PAROCHIAL REGISTER.

MARRIAGES.

1841-1852.

1841.

- Jan. 18. Christopher VERDON and Mary Catherine BYRNE, both of St. Michael's parish, by publication of banns.
 July 12. Jacob LAW and Eleanor IRWIN, both of this parish, by publication of banns.
 July 25. Henry WRIGHT and Mary Anne WICKHAM, by publication of banns.
 Sept. 14. George GREENE and Mary Anne REVELL, by publication of banns.
 1842.
 March 29. John HAY and Mary BOWDEN, by publication of banns, by the Rev. Dr. Burton.
 Aug. 21. Thomas LONGMOORE and Jane HYBERT, of the parish of St. Bridget, by publication of banns.
 Sept. 28. James HAMILTON and Mary RANDALL, by consistorial licence, by Rev. Alexander Franklin, curate of St. Mark's parish.

1843.

- Feb. 20. Henry ELLIS, of St. Bridget's parish, and Frances FLEY, of St. Michael's parish, by publication of banns.
 Nov. 26. Richard RUSSELL and Anne HARRIS, by publication of banns.
 1844.
 Jan. 7. Francis TRACY and Anne RIELLY, by publication of banns.
 Jan. 8. Richard M'COWAN, of Whitefriar-street, parish of St. Peter, house painter, and Elizabeth HAROLD, spinster, of High-street, by licence, in St. Michael's Church, by the Rev. Charles Stuart Stanford, prebendary of said parish.
 April 7. John PARKES, private 36th Foot, and Sarah MORAN, by publication of banns.
 April 10. John Taaffe O'DOWDA, of Bonnoconlon House, Co. Mayo, Esq., and Elvira MacDONNELL, *dau.* of Rev. Charles MacDonnell, of Wellington, Templeogue, by the Rev. Richard MacDonnell, F.T.C.D.
 May 5. William BECK, of St. Mary's parish, and Sarah GORMAN, of St. Michael's parish, by publication of banns.
 June 17. William NUGENT and Teresa LAWLOR, of the parish of St. James, by publication of banns.
 July 22. George KERK, of St. Michael's parish, and Ann M'DONAGH, of St. John's parish, by publication of banns, by Rev. Charles MacDonnell.

[This is the last time the Rev. Charles MacDonnell signs the Register.]

- Oct. 14. James JONES, of this parish, and Mary CONNOR, of St. James's parish, by publication of banns.

Nov. 12. Newton BYERS, of No. 7 Merchants-quay, and Christian WHITE, of the same, by licence, by Rev. Charles Stuart Stanford, prebendary of St. John's.

1845.

- Jan. 21. John BEGLEY, of Three Castles, Co. Wicklow, at present residing in High-street, in the parish of St. Michael, Dublin, and Eliza BURGESS, of Denzille-street, in the parish of St. Mark, Dublin, by licence, by Rev. William Marrable, curate of St. Michael's.
 March 19. John ARTWELL, of 20 Lower Leeson-street, in St. Peter's parish, Dublin, and Mary ROBINSON, of 10 Cook-street in this parish, by Rev. William Marrable.
 May 11. William HOLDEN, 32nd Regiment, Royal Barracks, Dublin, and Elizabeth CEARY, of 3 Jones's-court, by banns.

1848.

- July 11. William Harte TALBOT, of Abbey-leix, Co. of Kildare, and Mary CUNNINGHAM, of No. 3 High-street, by licence.
 Aug. 6. James OWENS, of 13 Cook-street, and Jane TRACY, of 77 Cook-street, both of this parish, by banns.

1850.

- Aug. 21. John NEWELL, of 75 Cook-street, and Elizabeth SPARKS, of same, by banns.
 Sept. 3. John PATTERSON and Mary Anne O'NEILLE, by banns.

1851.

- Feb. 18. Robert HILL, of Arthurstown, parish of Rathmore, Co. Kildare, and Anne MOONEY, of No. 2 Merchants-quay, by licence.
 Aug. 6. Robert POWELL and Margaret HOXY.
 Oct. 13. James OWENS and Alicia SMITH.

1852.

- March 8. Nathanael GREGG, of Island Bridge Barracks, and Alicia LYNAM, of 4 High-street, by Rev. William Chichester, prebendary.
 April 12. Joseph EGGLESTON, of Portobello Barracks, and Catherine Louisa GOULD, of 75 Cook-street, by Rev. John Hare Duck, curate of St. Michael's.
 May 25. Philip RIELLY, of the Royal Barracks, and Maria M'MAHON.
 June 28. James THOMPSON, of Portobello Barracks, and Sarah Anne HORNCastle, of 75 Cook-street.

END OF MARRIAGES.

(To be continued.)

MISCELLANEOUS.

HIGH PRICE FOR A DRAWING.—How an owner may be deceived in the monetary value of his own possessions, received singular confirmation at the sale of the Hon. Lewis Wingfield's properties last week. A drawing by Mantegna, "Judith with the Head of Holofernes," which he had never set much store by, was not knocked down until £470 had been reached, whereas other works of art which he thought very highly of did not bring as many shillings.

CORK PAVEMENT.—A new material for paving, is, we understand, now being introduced into London. It is composed of granulated cork and bitumen pressed into blocks, which are laid like bricks or wood paving. The special advantage of the material lies in its elasticity. When used for pavement, it gives a soft tread, which is exceedingly pleasant, recalling the feel of a carpet. In roadways it furnishes a splendid foothold for horses, and at the same time almost abolishes the noise which is such an unpleasant feature of city traffic. A few short pieces of this pavement are to be seen in the city. It yet remains to be seen how this material will bear the ordinary traffic of a London street, but there is evidence to show that in Australia short pieces of roadway have given good results.

GREEN-STREET COURT-HOUSE.—In the House of Commons, on the 20th. ult., the Chief Secretary for Ireland, in reply to Mr. T. W. Russell, said:—The unsatisfactory condition of Green-street court-house in Dublin has for a considerable time engaged the attention of the Irish Government. So far back as 1883, negotiations which had previously taken place, apparently resulted in an arrangement being made under which,

by means of contributions from the Government, contributions from the County of Dublin, and contributions from the Corporation, a new court-house was to be built at a cost of £40,000. It was believed that that arrangement was final, all parties at that time having agreed to contribute £13,500 of the total cost; the County of Dublin £9,000, and the Corporation the balance. Shortly afterwards, however, the Corporation came to the conclusion that they were not prepared to go on with the building of the court-house, and since that time the Government, so far as I know, have heard nothing further with reference to the negotiations, except as regards the complaints that have been made from time to time. He was not aware whether the Corporation had in any way altered their views; but from all he had heard of the court-house, it was certainly desirable that something should be done to remedy its unsatisfactory condition. If the Corporation desire to reopen negotiations, he could only say, he should be very glad to apply to the Treasury again, and ascertain whether they are prepared to stand to the arrangement.

CUTTING TIMBER.—M. E. Bartet, a French expert, has (says the *Timber Trades Journal*) just reported as to the best time to cut oak, elm, and beech underwood. When it is done in the middle of March or April nearly all the shoots of the oak or elm are made before the end of June; but if the cutting is deferred until the end of August it is only in the spring of the following year that these make their first growth. The more the cutting is delayed beyond May, the more the shooting is retarded, and the proportion therefore increased of shoots in the second year. The beech is slower in putting out growth than the oak or the elm, and it is sufficiently early to cut the beech in the middle of August, so as to render them incapable of shooting until the following year. The time for cutting seems to have little effect on the proportion of stumps which put forth shoots, and those which are reduced to sterility obtain their maximum proportions in oaks and beech when cut between May and July. The elm shows the least sterility from cutting, the oak occupying the middle place between the elm and the beech. In the elm, the number of fertile stumps changes very little with the time of cutting; for the oak, August appears the only time unfavourable. The time of cutting does not exercise a marked influence on the average number of shoots from the fertile stumps of oak and elm, but with the beech the differences are very great.

INSANITARY FLATS.—The so-called model dwellings are not always the abodes of health and felicity that the name would imply. Unfortunately the inhabitants of these nineteenth-century substitutes for the Englishman's proverbial castle do not always realise the advantage and the importance of doing their best to second the architect's hygienic designs. The only remedy for indifference of this kind is probably to get rid of uncleanly tenants in favour of others who appreciate the advantages of pure air and cleanliness. Sometimes, however, it is the architect or the builder who is to blame, and this seems to have been the case in a block of model dwellings in the Bethnal Green Road, witness the action *Plato versus Toye*, which was tried in the Queen's Bench Division last week. The plaintiff's case was that on taking possession in December, 1889, the drainage arrangements were in a defective condition, and the flushing apparatus for supplying water was out of order, so that no water could be obtained. The defects were patched up, but the work being inefficiently done, they again suffered from bad smells, &c. Ultimately their four children were taken ill and died, three of diphtheria and one of pneumonia following diphtheria, while the parents themselves were also indisposed. It was urged for the defence that the tenement was in a reasonably fit condition for habitation when the plaintiffs entered into possession, and that the system of drainage and the flushing apparatus were in a sanitary state. If, it was urged, the children and the plaintiffs became ill through the insanitary condition of the premises, it was through their uncleanness, the rooms, when they were vacated being in a very dirty condition. The judge held that in buildings of this description there was an implied condition on letting that they were fit for human habitation, and the jury awarded damages to the extent of £77 10s. If owners of house property can only be brought to see that neglect in the long run far more costly than proper attention to the sanitary arrangements, there will be less occasion for such actions. Landlords evade their responsibilities at present with far too great facility and it is to be hoped that at no distant date the letting of a house in a dangerously insanitary condition will expose the lessor to pains and penalties as well as to the liability for civil damages.—*Medical Press.*

THE IRISH BUILDER.

VOL. XXXIV.—No. 774.

TOWN HALL AND MUNICIPAL OFFICES, NEWRY.



For the above building we gave, in our issue of May 1st, last year, a description of its arrangement, as proposed by the successful competitor in the second competition.

The design was sent in under motto "Caroline," and the author said he had given special consideration to the commanding site which the building would occupy when completed, and had, therefore, placed it in a position where it could be best seen to advantage from every point, and also for the purpose of giving the greatest uninterrupted floor space which can be obtained for the large hall, and for the proper and convenient situation of the municipal offices on the ground floor. The front of the building will be on the new bridge, facing up the river towards present bridge, and, for greater stability, the heavy main side walls are planned so as to rest on the far solid abutment and near pier of the new bridge, now in course of construction, the end and other low walls only resting on the arching. The entrances and means of exit have been carefully studied. At end of vestibule, a large circular hall, 16 ft. in diameter, is placed, giving easy access to all parts of the building.

The dressings to the various opes, angles, plinths, steps, side and main entrances, &c., will be granite of the best quality, of an even gray colour throughout, and all to be patent axed on the external faces. The shafts of the principal entrance will be each in a single stone highly polished, and above will be an ornamental pediment containing the Town Arms. The lower plinth will be 2 ft. high, finely punched; upper one 1 ft. 6 in. high, sparrow picked, and have chisel drafts and be chamfered and moulded on top. The whole of the exterior faces will be faced with best perforated brick. The bases and caps of pilasters, ornamental panels, date panel, together with cornices, ballusters, and coping of parapets, will be red terra-cotta. The floor of main vestibule will be laid with mosaic tiles, and the walls will have tiled dado, with moulded skirting and capping. The main entrance will be secured by folding ornamental wrought iron gates. The whole of the main sashes will be glazed with best polished plate glass, and the staircase sashes with ornamental glass.

Mr. William Batt, of Belfast, is the architect, from whose design the building will be erected by a local builder, Mr. David Mahood, who also was the builder of the bridge upon which the structure is now certain to be erected, as shown in the illustration accompanying our present issue.

INTERESTING SALE OF IRISH FAMILY PLATE, AND AN ANTIQUE CHALICE AND PATEN.

On the 4th inst., at the rooms of Messrs. Christie, Manson and Woods, London, an extensive sale took place of valuable property, consisting of old gold and silver coins and medals, together with a large collection of silver plate. The following was the property of the Right Hon. Lord Talbot de Malahide:—

Twelve dinner plates, with shaped gadroon borders—three of 1709, nine of 1710, 222 oz. 14 dwt. Twelve, do., 1715, 235 oz. Twelve, do., 1752, by Phillips Garden, 179 oz. 5 dwt. Twelve, do., 1752, by the same, 179 oz. 18 dwt. Twelve, do.—three of 1752, five temp. Queen Anne, four old Irish, 198 oz. 3 dwt. Twelve, do., Dublin hall mark, 1780, 213 oz. 5 dwt. Twelve plated soup-plates, made to match; thirteen, do. A pair of oval dishes, with shaped borders and gadroon edges, 14 in. long—one 1685, one old Irish, 62 oz. 13 dwt. A pair of do., 15½ in., old Irish, 76 oz. 15 dwt. A set of four oval-shaped dishes, with gadroon borders, 12½ in., 81 oz. 15 dwt. A pair of do., 18 in., 1752, by Phillips Garden, 94 oz. 10 dwt. A pair of do., 20½ in., 1752, by the same, 126 oz. 18 dwt. A set of four circular dishes, with shaped gadroon borders, 11½ in. diam., old Irish, 103 oz. 8 dwt. An oval soup-tureen and cover, partly fluted, with gadroon border, with lions' head handles and claw feet, surmounted by a coronet, 119 oz. 18 dwt.

For another account:—

An epergne, or candelabrum, on triangular plinth, chased with foliage, flowers, and scrolls, with centre basket of fruit, of open trellis design, with border of flowers in high relief, and five foliage branches bearing glass dishes or nozzles for lights—30 in. high, 344 oz., in oak box.

A centre-piece, on stem, formed as twisted oak branches, and triangular base with three figures of stags, bearing glass centre-dish, and foliage branches for nine candles—30 in. high, 302 oz. 15 dwt., on looking-glass plateau, with chased plated border.

The prices varied from 3s. 6d. to 9s. per ounce.

The following is a description of an Early-English silver-gilt chalice and paten, disposed of for another account:—

The chalice has a plain bowl, wide and shallow with slight lip, supported on cylindrical stem, with large deeply-fluted knop in the centre, a band or collar above and below it, chased with foliage; the stem, spreading from below the knop, is twelve-sided and plain, terminating in foliated ornament, from beneath which project twelve additional foliations, finely chased, which cover the circular foot. Inscribed underneath, "*Nicolus me fecit de herfordie*"—7½ in. high, bowl 6½ in., foot, 6½ in. diam. Weight 34oz.

The paten has a sunken seaxfoil centre, engraved with a figure of Christ enthroned, in the act of blessing, encircled by a band on which is inscribed, "*In nomine patris et filii et spiritus sanctiam*"; four of the spandrels are engraved with emblems of the Evangelists bearing scrolls, inscribed with their names, the other two chased with foliated ornament—7½ in. diam. Weight, 12 oz. 8 dwt. Attributed to the early part of thirteenth century.

These two articles brought £710.

DEATH OF SIR JOHN COODE.

The death of Sir John Coode, K.C.M.G., at the age of 76 years, took place at Brighton on Wednesday, 2nd inst. Sir John, who was born at Bodmin, early in life made choice of the profession in which he has risen to such distinguished eminence. He began his career under the eminent engineer Rendell, and for a short time was employed on the Great Western Railway. As early as 1847 he was

appointed resident engineer at Portland harbour and breakwater, and, on the death of Rendell, engineer-in-chief in 1856. He continued in charge until the completion of this great work in 1872, when he received the honour of knighthood. He was for many years consulted by the Board of Trade and other Government departments on matters connected with harbours, docks, rivers, and drainage. Many important works were carried out from his designs, including the great breakwater and docks at Cape Town, the breakwater at Colombo, river improvement in Ireland, the harbours of the Isle of Man, and similar works elsewhere. He was a member of the Royal Commission on Harbours of Refuge in 1858-59, and of the Royal Commission on Metropolitan Sewage Discharge 1882-83. The harbour of refuge now in progress at Peterhead, and the new harbour works at Dover, for which the Act was obtained last Session, are from the designs of himself and his firm. Sir John persistently advocated the construction of a national harbour at Filey, on the east coast, recognising the great value of such a harbour as a basis of operations for our Navy, and as a refuge for all vessels in the hour of need. Among his other public services it may be mentioned that he served as a member of the International Consultative Commission on the Suez Canal in 1884-85. He was President of the Institution of Civil Engineers in the year 1889 and 1890, and received, on behalf of the institution, about 250 American engineers who visited Great Britain in a body during the summer of 1889. He was one of the Royal Commissioners for the Colonial and Indian Exhibition in 1886, and acted as president of the engineering section of the International Congress on Hygiene, which held its sittings in London in August last. Sir John Coode twice visited the Cape, the Australian continent, and New Zealand, at the request of colonial Governments, and many of the harbours constructed or in progress there are from his designs.

BOOKS RECEIVED.

Dublin Street Names, Dated and Explained. By the Rev. C. T. McCreedy, D.D., Curate of St. Audoen's, and Minor Canon of St. Patrick's Cathedral. Dublin: Hodges, Figgis and Co., Publishers to the University, Grafton-street.—The aim of this small volume is—"To ascertain the earliest-known date, where the name of each of our streets is first found to occur,—and then, to offer (where possible), an explanation of the name so dated." We have a good idea of the laborious task which the compiler so nobly faced, and we would advise our readers to study the result in the volume he has produced.

Lockwood's Builder's, Architect's, Contractor's, and Engineer's Price-Book for 1892. By Francis T. W. Miller, A.R.I.B.A. London: Crosby Lockwood and Son, Stationers' Hall Court.—This useful volume maintains its character of a reliable guide to the professions for whom it has been compiled.

Spon's Architects' and Builders' Price-Book for 1892, with Memoranda and Tables. By A. W. Young, Architect. Nineteenth Edition. London: E. and F. N. Spon, 125 Strand.—It is pleasant to note the great improvements made in the editions of price-books issued during recent years. The typography and binding of the two before us are exquisite.

A CHAPTER
FROM COUNTY CARLOW HISTORY
BEFORE THE CHRISTIAN ERA.
"THE SLAUGHTER OF THE KINGS."

PERHAPS the last idea that would enter into the mind of a visitor to the old decayed Borough of Leighlin Bridge, is to associate it with a royal residence. No doubt, its surroundings are very beautiful, and there can be no more picturesque object than its fine old bridge spanning the clear rushing waters of the River Barrow, with the grim ruins of the Black Castle still keeping watch and ward over the pass—a ruin that, if it could speak, might tell us of many a bloody battle and many a joyous festivity, of the time when Sir Peter Carew kept within its walls a household numbering a hundred persons, and when "his cellar door was never shut, and his buttery always open to all comers of any credit"; when crested knight and lady fair rode from its now damp and deserted portals through the streets of the crumbling little town, and all was bustle and activity, where now there is little but ruin and decay. And yet, hundreds of years before Hugh de Lacy laid the foundation-stone of that castle, before even the warlike Milesian race had planted their feet on Irish soil, there was a royal residence within a few minutes' walk of Leighlin Bridge. Passing out of that town by the road that leads to the parish church, not far from the banks of the River Barrow, and a few hundred yards within the handsome demesne of Burgage, you may still find the remains of the old royal fortress called *Dinn Righ*, within which, even in the times of the Fir Bolgs, there was a royal residence, and now, after the lapse of centuries, and when most of the surrounding trenches have been filled up, and little but the site of the citadel of the fortress remains, we can see that in those old days, and with the appliances of warfare then in existence, it must have been a place of great strength. It requires fair climbing powers to ascend the sides of the steep mound on which the palace stood, and which, doubtless, was surrounded on the summit by a strong stockade, and within the walls of that palace the tragedies that are recounted in the following story took place. These events are placed by our records between the years A.M. 3618, and A.M. 3648, consequently several hundred years before the Christian era.

Ugaine Mor, King of Erin, was succeeded in the sovereignty of Ireland by his son Laeghairé Lore, who was barbarously murdered by his brother, Cobhthach Cael, under the following circumstances. King Laeghairé Lore was a kind and indulgent brother, and not only settled on Cobhthach a princely revenue, but also gave him as a residence the ancient royal palace of *Dinn Righ* (the hill or mound of the kings). This generosity met with a very ungrateful return, for Cobhthach envied his brother the regal power, and nothing short of the whole kingdom would satisfy him; we are told that he became so envious that he pined away almost to death. When the king heard of his sickness,—not knowing the cause of it,—he resolved to pay him a visit, and set out, escorted by his bodyguards and household troops, for that purpose. When he came to *Dinn Righ*, the sick prince observed that his brother was attended by men in arms, and asked the reason for such a military retinue, which he seemed to resent

as a libel on his loyalty and affection. The king courteously answered that he never entertained any suspicion of his loyalty, and that he only came in that manner to keep up the dignity of his regal position; but, rather than make him uneasy, the next time he came to see him, he would visit him without guards. The treacherous Cobhthach, now knowing that the king would visit him alone, resolved on his death, and, not wishing to rely altogether on his own judgment, he consulted his Druid as to the best manner by which he could attain his object; and was advised by him to feign himself to be dead, and when his brother came to lament over his body, to stab him. This barbarous stratagem had its desired success, for when the king heard of his brother's death he immediately came to *Dinn Righ*, and when he was ushered into the room where the apparently dead man lay, he cast himself on his body in a paroxysm of grief. Cobhthach thus obtained his desired opportunity, and immediately thrust a dagger through him, and in this way murdered him on the spot.

In order, therefore, to still further secure his usurpation of the Crown, he followed up the murder of his brother by that of all his immediate relatives who could claim any right to the succession, with the exception of one child, the grandson of the murdered king, and this child he treated so barbarously that he lost his speech, and for a time his reason, and thus became incapable, according to law, to succeed to the royal power, his grand-uncle's enmity being in this way disarmed. The child, who was named "Maen," was allowed to reside at *Dinn Righ*, and was placed under the tuition and guardianship of two officers of the Court of Tara, namely, *Ferceirné*, the poet and philosopher, and *Craftiné*, the harper. Under their care and guardianship he grew up distinguished by great beauty of person, but he remained dumb until one day, in the excitement of a quarrel with his young companions, he suddenly regained his speech. He was subsequently obliged to fly from his great uncle's treacherous guardianship, and to seek protection from the King of West Munster. While there, he fell in love with the king's daughter; his affection was reciprocated; and we read of the usual difficulties in the way of the lovers—the king not unnaturally objecting to his daughter making a bad match, and the princess persisting in her attachment. However, after some time he obtained the king's consent to his marriage, and immediately after that event his father-in-law placed under his command a considerable body of troops, and with these soldiers he marched on *Dinn Righ* and captured it; but he was unable to hold it, for King Cobhthach, when he recovered from his surprise, put himself at the head of a large army, and marched from Tara to retake it from him. Maen, feeling that he was unable to resist a force so superior to any that he was able to put into the field, fled from *Dinn Righ* to his father-in-law, and, having placed his wife under his guardianship, he set sail for Britain, and passed from thence into France, where he entered into the service of the French King, who was a near relative of his own. While in the French army, he greatly distinguished himself, and was promoted to high command; and so commended himself to the ruler of that country, that he obtained

from him a picked body of two thousand two hundred French soldiers, and a number of ships to transport them, with which to make an effort to regain his patrimony.

With these troops "*Labhraidh Maen*" sailed for Ireland, and landed at the mouth of the Slaney, at a place now known as *Wexford*. After resting for a short time there, to recover from the fatigues of his journey, and having been joined by a great number of Leinster and Munster men, he made a forced march on *Dinn Righ*, where the Monarch Cobhthach happened to be holding a provincial assembly, accompanied by thirty native princes and a bodyguard of seven hundred men. He was successful in taking the palace by surprise, and, having surrounded it, he set it on fire, and the monarch, the princes, the guards, and the entire household were consumed in the flames. In this way poetic justice fell on the head of the cruel murderer and usurper, and he lost his life by a painful death in the very place where he had treacherously murdered his brother and his kindred. "*Maen*," known as "*Labhraidh Maen*," then assumed the monarchy, and reigned over Ireland for eighteen years.

Leinster was at that time divided into thirty-one territories, and over each one of these territories a minor king or prince ruled, so that the usurper Cobhthach must have had nearly a full muster of the Leinster princes with him when he was surprised in *Dinn Righ*, and "the Slaughter of the Kings" so celebrated in Irish story took place.

Such were some of the events by which the neighbourhood of the quiet little town of Leighlin Bridge (now only known for its malting industry) was at one time distinguished.

Clonegal.

J. FFRENCH.

NOTE.—The foregoing story, which is taken from sources familiar to antiquaries, may interest the general reader about a place that is but little known. J. FF.

THE HYGIENE OF OUR DWELLINGS.

On the 3rd inst., at the Assembly Buildings, Belfast, Mr. W. J. Gilliland, architect, M. San. Ass., delivered a lecture on "The Conditions affecting the Hygiene of our Dwellings," an abstract of which we print.

The President of the Queen's College (Dr. Hamilton) in the chair.

The lecturer stated that his object was to place before his audience a few matters affecting the health of those residing in the houses of Belfast and its immediate neighbourhood. He defined the conditions necessary to a healthy house as being:—1. It should contain pure air. 2. It should have a sufficient supply of pure water. 3. There should be access of sunlight to all the living-rooms. 4. The house should be maintained at a proper temperature. 5. There should be an entire absence of dampness. 6. The artistic sense should be satisfied by at least the absence of the offence of ugliness, and, if possible, the presence of some element of the beautiful. These requirements, though apparently very simple, are not so easy of attainment, the failure of attainment arising from special causes requiring various methods of construction and prevention to meet them, which methods from general causes at work are not universally adopted. The sources from whence impurity of the air is derived exterior to the house were pointed out, and the very unfavourable situation of portions of Belfast dwelt upon, the lower portion of the city being built in sleet, in which the ground

water, much impregnated with sewage, rises to within a few feet of the surface, and the variable level of the same produced by the rise and fall of the tides providing conditions favourable to the evolution of foul gases. The present condition of the several water-courses which pass through the city, and on the banks of which the principal manufactories are erected, polluted by the sewage of considerable districts and the waste products of mills and bleachgreens, which are emptied into them, and then this mixture of sewage and water heated up by its use for condensation purposes, were touched upon; the confined nature of considerable portions of the city, which prevents free circulation of air; the absence of open spaces, and such as exits being rapidly appropriated for buildings; the tenacious clay, retaining on its surface the rainfall and leakage from sewers on which a considerable portion of the houses in the higher districts are built, or, worse still, the "made ground," containing all sorts of organic matter, on which so much building is done; the smoke and deleterious gases given off in the processes of manufacture—all contributed to the high death-rate of the city; and that it is not higher was accounted for by the prevalence of general cleanliness and absence of overcrowding amongst the working-class population. It was urged that the banks exposed at low water on the margins of the river and in the foreshores of our lough, on which so much sewage matter is deposited, contributed in a considerable degree to atmospheric pollution, and the fear was expressed that this evil, now so unpleasant, would become intolerable to those residing near the foreshores when the new main drainage system comes into operation. A protest was entered against throwing crude sewage into the river or lough, and attention was called to experiments carried out at the instance of the Massachusetts Board of Health in sewage filtration, attaining results which gave promise that the question of sewage disposal was not so hopeless as many believe. This subject was described as being of pre-eminent importance to the inhabitants of the city, but more particularly to those who reside on the borders of the lough. The ventilation of main sewers was dealt with, and afterwards the water supply, the lecturer expressing the hope that, as we are almost wholly dependent on the Belfast Water Commissioners for our supply, they would see to it that by careful filtration the present supply was improved, and that for their intended extensions purity of supply would be the first consideration. The arrangements for plumbing and house drainage for the exclusion of sewer gas were gone into, and explained in detail by the aid of diagrams. Special emphasis was laid on the necessity for having drains laid of such proportions and of such good construction that they would be self-cleansing, it being better to prevent the formation of sewer gas by this means, and thus reduce as far as possible the necessity of dealing with sewer gas when formed. The disproportion between the three-gallon flushes allowed for closets by the Water Commissioners and the size of the sewer pipes insisted upon by the local authority, and the impossibility of these sewers remaining clean, was fully explained, and that in consequence, especially since the adoption of intercepting traps, they would become stopped. It was advised that the rainfall should be utilised for flushing by means of an automatic cistern, of 20 to 50 gallons capacity at least, placed as near the top of the soil-pipe as possible. The very great prevalence of leaky drain-pipes, the impossibility of making earthenware pipes water-tight with cement joints, and the desirability of flexibility in the joints to accommodate the sewers to settlements, were pointed out. The bylaw requiring the wastes from baths, sinks, &c., to discharge at some distance from the trapped grating was described as absurd, and authority to substantiate its unsanitary character was quoted. The immediate removal of dust

and refuse from the house is important; the covered ashpit, in contradistinction to the open one, recommended; the systematic cleansing of these by the Corporation approved; and the hope expressed that the ashpit would soon give way to a portable box of modest dimensions, corresponding in size to the short intervals between the calls of the dustman. Various suggestions were made towards reducing harbourage for dust in the house. The filtration of water in the house was recommended only when the filter is cleansed with regularity and frequency. Access of sunlight to living apartments was claimed as being of more importance than prospect, but the skilful designer could generally combine both by good management. Absence of dampness could be secured only by sufficiently good construction and the use of proper material. A plea was put forward on behalf of more artistic character to houses, on the ground that its want has a considerable effect on all persons who are not deprived by the absence of artistic sense. The unfortunate position of the artisan and lower middle-class population was noticed, they being dependent for their houses on the jerry builder and his coadjutor, the capitalist speculator, who acquires land and supplies the funds to the jerry builder for the erections, built to sell, and disposed of to the small capitalist, who is generally taken in by his hargain. In conclusion, Mr. Gilliland fully admitted that material progress had been made in health matters in Belfast, but he trusted that they would only form stepping-stones to higher attainments in the future. He eulogised the scheme of the Worshipful Company of Plumbers, for the education and registration of plumbers, and advised his audience to protect themselves and assist this movement by employing only registered plumbers, and to see that they sent only registered operatives to do the work. If plumbers are registered, then it was asked why should not architects, who are the supreme directors in all building operations? The hardship to those who have spent years in an educational training to qualify them for this responsible position in being classed with those who, having failed in some occupation, dub themselves "architects" without any qualification save a smattering of drawing and a few ill-conceived notions of construction, and the consequent danger to an indiscriminating public, were referred to in conclusion.

ORIGIN OF THE CELTS.

(Continued from page 51.)

ABOUT the sixth century before the Christian era, and while their knowledge of Europe was still very imperfect, the Greeks had already some knowledge regarding the existence of the British Isles. However, as Ierne,¹ so distinguished by Aristotle,² was probably the chief and most distinctive of the group—perhaps even the most populous—the earliest record we find in the Greek language regarding them has the term Iernian, meaning Irish, and not the designation British attached. It seems probable, that the Phœnicians and Carthaginians were among the earliest navigators, who divided, with the Greek colonists of Marseilles, the trade in tin, with the Iernian Isles,³ as the Greek poet—supposed to have been Orpheus—terms them.⁴ However, the real name of the writer was Onomacritus.

The continental people, several ages before

the introduction of Christianity, had regarded Ireland as the farthest of nations then known. It was distinguished by the corresponding term in Latin, namely, Ultima Thule, or Tyle. It continued to bear such a name until the ninth and tenth centuries, as we find by referring to various Latin writers. It would seem, that the Irish people themselves had received some knowledge relative to that idea prevailing on the continent of Europe, for they applied to their own country the distinguishing epithet of Criche-na-fluinedach, which has been interpreted, "the end of the nations."

The celebrated Greek philosopher and historian, Plutarch,⁵ who flourished in the first and second century of the Christian era, has certain remarkable observations in reference to our island. By this writer, we are told that Ireland was called, and not without reason, the ancient Ogygia; because the inhabitants began their histories from the most profound memory of antiquity. All other nations in respect of them were merely modern, so far as recorded traditions are concerned. The Greeks called everything very ancient, Ogygia. This name was most applicable to Ireland, because it had been a very long time since it was first inhabited, and because historians had some authentic knowledge of its ancient history, consecutively from its earliest times down to the latest.⁶ Ancient Irish customs and remains are very analogous to practices and objects in the distant countries of the East; while they differ not materially from the ascertained usages and antiquities of the people inhabiting Gaul, before the Roman Conquest. By some, it has been asserted, likewise, that ideas, manners, and customs of the Irish, at the present day, singularly resemble those of the Israelites.⁷

According to a very prevalent opinion of historians, the Cymric or Welsh race is derived from the Cimric Chersonesus, or from Jutland, in the northern part of Europe.⁸ However, the period assigned for their migrations has involved writers in considerable doubt, and the question has given rise to several interesting speculations.⁹ The Cimbri once occupied the Danish peninsula, which was denominated from them among the ancients; but it is now almost completely inhabited by a Gothic race.¹⁰

Venerable Bede states, that the Pictish nation migrated from Scythia.¹¹ According to him, that people had been called Picts, even before they arrived in Great Britain. If such a tradition is to be relied on, the early Milesian colonists of Ireland and the Picts are traceable to a common origin. On this subject, the learned English antiquary, William Camden, has dilated, at some

⁵ He was born under the Emperor Clandius, and about the year 52 of the Christian era. According to Fabricius, he died in the seventieth year of his age, and in the fifth year of the Emperor Adrian's reign, about A.D. 122.

⁶ See Camden's "Britannia," as also Rev. Dr. Keating's "History of Ireland," part i.

⁷ This is sought to be proved, in a little work of P. A. O. Neymo, and intitled: "Similitudes; or, the Israelites and the Irish," printed in Galway; no date, small 4to.

⁸ See Sir William Betham's work, "The Gael and the Cymri, or an Inquiry into the Origin and History of the Irish Scott Britons, and Gauls, and of the Caledonians, Picts, Welsh, Cornish, and Bretons." The Cymri, chap. xi., pp. 279 to 418.

⁹ Very interesting information, relative to the early inhabitants of Wales, will be found in the valuable work of J. N. Brewer, on the "History and Antiquities of the Early Britons, the Romans, Anglo-Saxons, Danes, and Normans." It contains large folding maps, and it is a large royal octavo volume of 675 pages, published in London, A.D. 1818.

¹⁰ Thus Sharon Turner thinks it allowable to call those Goths, who inhabited the Cimbric Chersonesus, by the denomination Cimbri. As well might he call the English who garrison Gibraltar Spaniards.

¹¹ See "Historia Ecclesiastica Gentis Anglorum," Lib. i., cap. i.

¹ See the work, De Mundo, Lib. iii., Ed. Kappli, Altenb., 1792.

² He was one of the most renowned among the Greek philosophers, and he is said to have been born in the first year of the ninety-ninth Olympiad—384 years before the birth of Christ. He died B.C. 322.

³ Thus allusion is made to them:—

"ἢ νήσους Ἰερνίων ἄσπον ἰκμαί."

See "Argonautica," v. 1171. Leipzig edition, 1764, 8vo.

⁴ See the admirable work of William F. Skene, "Celtic Scotland: a History of Ancient Alban," vol. i. History and Ethnology, Book i., chap. i., p. 29.

length.¹² In like manner, the question has been treated by A. Du Chesne, who has followed his statements almost to the letter, without giving us much original observation.¹³

Before the birth of Christ we have few authentic records of their social state, and still less of their historic life; however, an Irish or a Scottish migration introduced the people of our island, as very early colonizers of the southern and western parts of Scotland. We find a legendary account of this migration—and probably in the main well based upon history or tradition—which be met with in the Irish version of the "Historia Britonum" of Nennius.¹⁴

The poet Claudian gives us a description of the Picts as having figures imprinted or branded with iron upon their bodies. This account agrees exactly with that description which Herodian gives of the Caledonians. Such peculiarities prove them clearly to have been the same people, under their old name of Caledonians, and under their new name of Picts.

From the Albionics, which seems to have been the classic term for Albanach—the most ancient inhabitants of Britain as known to the Phœnicians, Carthaginians, Greeks, and Romans—the Picts and Caledonians were the sole remaining descendants in Scotland.¹⁵ However, the designations of Picts or Caledonians were not acknowledged by themselves; they were imposed on them rather by the Romans and Britons.

The name Scotia was at first peculiar to Ireland, but after some ages it was applied to the modern country of Scotland.¹⁶ The Scots of Alhan were a Gaelic colony from Ireland, the original Scotia,¹⁷ and arrived there after the Picts had long colonized Scotland. A varied population must have been in possession of Caledonia before the Romans began to establish settlements within it.¹⁸

In the time of St. Jerome, or about the beginning of the fifth century, it is sufficiently apparent, that a distinction between the Irish and Caledonian or Pictish Scots was known to the Romans.¹⁹ One of the first among Christian accounts, regarding the Scots, is found in the writings of St. Jerome,²⁰ who speaks of them as ignorant concerning the Mosaic law, and as living near the ocean. He classes those whom he terms "Scoticas gentes"²¹ among the northern barbarians; but, all people living without Roman jurisdiction were regarded in such a light, even at the period when he wrote.

In the south-western part of Scotland, as

we are informed by Ailred,²² who flourished in the twelfth century, the people of Gallo-way had a king of their own, as not only recorded by previous historical writers, but even as gathered from the memory of some who were then living.²³ The kingdom of the Britons in the West of Scotland continued until the tenth or eleventh age. The Britons extended their inroads from the south in a corresponding measure, and especially through that district now known as the Lowlands of Scotland.²⁴

(To be continued.)

CORRESPONDENCE.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Your interest in the rise and fall of Monarchical houses causes me to send you the following:—

FAINEANT KINGS.* THE LAST KING OF BRENTFORD.

(Not Thackeray's.)

"A King of Shreds and Patches."

There lived a King at Brentford,
In a house he paid no rent for't;
He held each day his regal sway,
And at night he always went forth.

His subjects ever at his call,
For spree, or glee, or fancy ball;
No care had he what crowns did fall—
It touched not the realms of Brentford.

His guards right easily he found
In street, or lane, or cricket ground,
And royally they did surround
This gallant King of Brentford.

His coat of many pieces made—
Not lin'd with silk or trimm'd with braid;
Its various hues by sun and shade
Bedecked this King of Brentford.

No fiefs of royalty had he,
From fines and tax his realm was free;
In fun and freaks his Majesty
Enjoyed the crown of Brentford.

His wife, his queen of heart and home,
Held court whilst he did idly roam;
And when at her he dared to foam,
She ruled this King of Brentford.

Of maids had she full many a score,
With liberty from door to door
To beg for aid, and blessings poor,
For this great Queen of Brentford.

In course of time this fam'd King died;
Then man and maiden mourn'd and cried,
And to his grave marched side by side
To entomb this King of Brentford.

But now no monument is seen
In court, or square, or village green;
All is as if there ne'er had been
A NOBLE KING OF BRENTFORD!

LESÈ MAJESTÉ.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

A GENERAL meeting of the Institution was held in their new hall, Dawson-street, on Wednesday evening, 9th inst., the President, Mr. Thomas F. Pigott, in the chair.

The minutes of previous meeting were read, and a ballot for new members held, when

Mr. William Ross, member, proceeded to read his paper on "Cast Iron Tanks" (which we print upon another page).

A short discussion followed, in which Messrs. Stoney, Manning, Griffith, and others took part. Mr. Ross having replied, the President announced the meeting adjourned.

²² He was Abbot of Rievale.

²³ See "Vita S. Niniani."

²⁴ Mr. William F. Skene's admirable work, "Celtic Scotland, a History of Antient Albany," contains a very learned dissertation on the Ethnology of Britain, and on the Four Kingdoms of Northern Britain. See vol. I., book I., chap. iv. v., pp. 164 to 274, with accompanying map.

* Amongst whom Ireland had its King of Dalkey; France, its Le Roi D'Yvetot, immortalised by Beranger; England, its noted Kings of Brentford.

SCOTTISH MARKET CROSSES.

MARKET or town crosses in Scotland were generally placed in some large open space of a town, such a position being chosen not only to show where the market was held, but as a centre from which edicts, either royal or burghal, might be proclaimed, and where civil offenders might be punished. They consisted of a pillar raised upon a flight of steps, or a solid basement without steps of any sort. On most crosses of this sort there still remains the iron staple to which the jongs (a collar used for chaining up malefactors for the public edification) were attached, serving thus the same purpose as the stocks in England, or for the more serious punishment of the pillory, where the offenders might be jeered at and pelted with everything unsavoury and disagreeable—a mode of punishment only abolished by Act of Parliament in 1887. In some cases probably the branks (another variety of the same class of punishment) may have been fixed at the opposite side of the jongs. It seems to have been so at Ormiston and Crief, in both of which the iron staples still remain. In the latter it is higher up the shaft than on the opposite side. The market cross sometimes consisted of a larger building, having a stair inside leading to the roof, which was surrounded by a parapet, and from the centre of the roof the pillar sprang. In country districts the jongs seem to have been attached either to the gateway of the churchyard, as at Duddingstone and Restalrig, near Edinburgh, or on the doorway of the church. At Spott, East Lothian, they are so fixed; at Biggar the jongs are on a buttress by the church door, while on a buttress a few yards on the other side of the door there remains a staple, where very probably the branks, or witch's bridle, was attached. Sometimes they were attached even to a tree. In towns they were occasionally on the door-post of the common prison. At the ancient village of Water of Leith they hung at the doorway of an old house still standing; this house, or some part of it, was used as a prison. The cross was also used to measure punishment from. The story is well known of the judge who condemned a notorious offender to be publicly whipped from the Cross to the Watergate, but who so little appreciated the benefit that, shaking his fist in the judge's face, he told him with an oath that he had done his worst, whereupon the judge laconically added "and back again." And in the old ballad of "Adam Bell" we are told that preparations were made by the justice for the execution of William of Cloudeley at the pillory or cross. Crosses were no doubt originally ecclesiastical, and their transition from this character to their ordinary use is simple. In rude and lawless times we can suppose a paction of any sort being considered binding if contracted at a cross, with its sacred significance. This would perhaps be rendered doubly sure if, while hand-fasting, they touched with the other hand the cross, the place where it was situated thus becoming a place of bargain-making, and the cross gradually losing its religious significance, its very cruciform shape disappearing, until at last it was transformed into the ordinary market cross. The crosses at Cockshurnpath and Clackmannan are characteristic in this respect, the one at Ormiston still preserving the cruciform shape; having, however, a shield of arms sculptured on it, the ecclesiastical character is lost. But the most beautiful of all Scottish market crosses is that of Inverkeithing; the height of the pillar, capital and unicorn is 14 ft. 6 in.; diameter of parapet wall, 16 ft. 2 in. It is heraldic (which, fortunately, fixes its date), has a sun-dial, which is again surmounted by the Scottish unicorn, with the shield. Attached to the shaft, the staple for the jongs remains, the whole surmounted by a parapet wall in which is a doorway. The capital is formed by heraldic shields, two of them being charged with the royal arms, one for the king, the other being assumed by the Duke of Rothesay as the king's eldest son and heir apparent; those of Anabella Drum-

¹² See Camden's "Britannia," vol. xvi., xvii., and the following passages.

¹³ See "Histoire d'Angleterre," liv. i.

¹⁴ Edited, with a translation and notes, by Rev. Dr. James Henthorn Todd, and by the Honorable Algernon Herbert, pp. 120 to 167. Also, see Appendix.

¹⁵ See William F. Skene's "Highlanders of Scotland, their Origin, History, and Antiquities; with a sketch of their Manners and Customs," vol. I., part I., chap. I., p. 14.

¹⁶ "Les Scots, qui ont en leur première demeure en Hibernie, lui font donner le nom de Scotia vers le déclin de l'Empire en occident. . . . Leur établissement en Ecosse y faisant passer le nom de Scotia, l'Hibernie en a été distinguée par le surnom de major." D'Anville's "Etats formés en Europe après la chute de l'Empire Romain en Occident." Pars. v., p. 232. A Paris, 1771, 4to.

¹⁷ See Edward A. Freeman's "History of the Norman Conquest of England, its Causes and its Results," vol. I., chap. II., p. 14, n.

¹⁸ For the most satisfactory accounts and illustrations of this matter, we refer to William F. Skene's "Chronicles of the Picts, Chronicles of the Scots, and other Early Memorials of Scottish History."

¹⁹ Writing Adversus Jovinianum, about A.D. 412, he alludes to "Scoticas gentes," thus using the plural number.

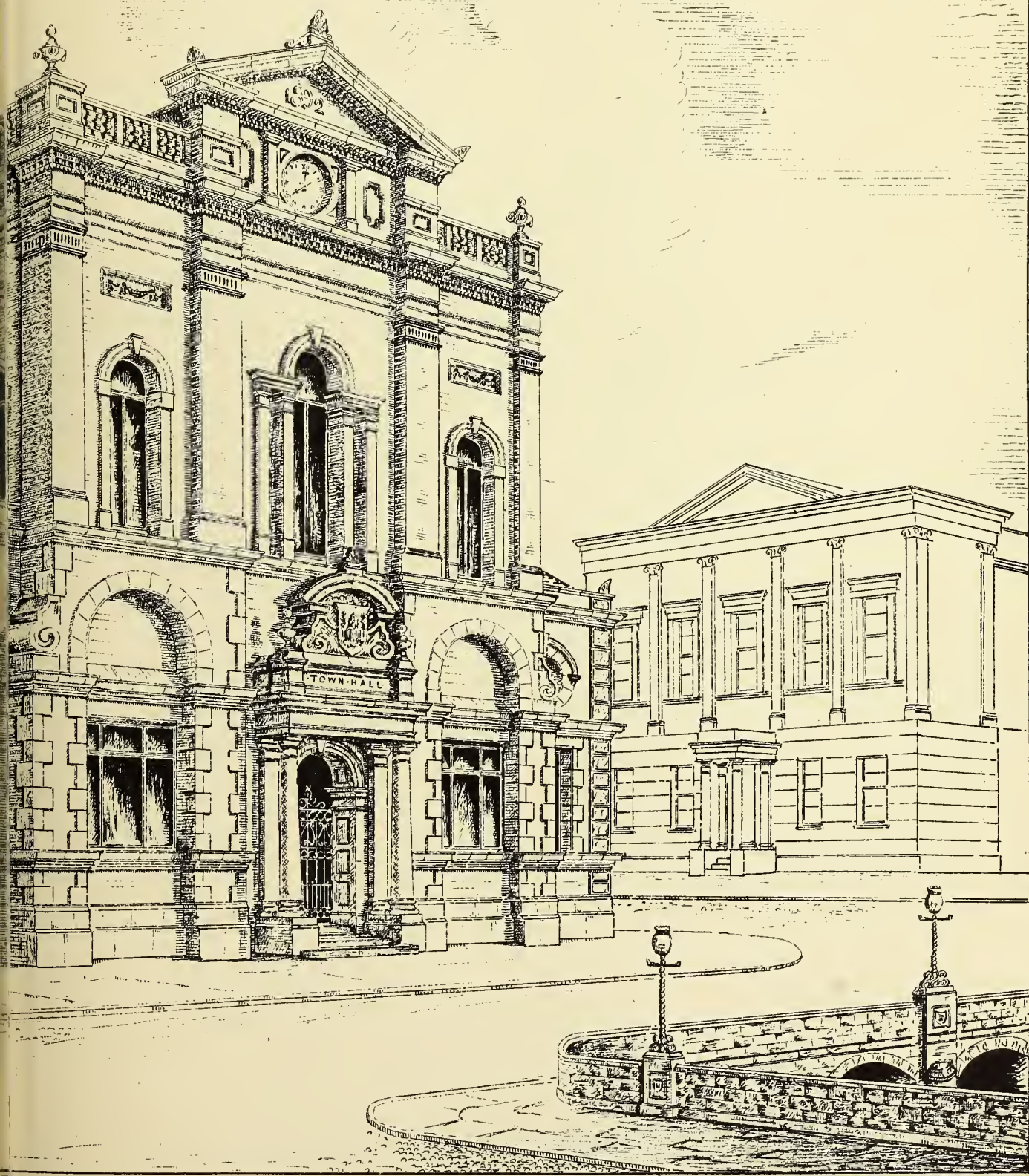
²⁰ Epist. ad Cles. He speaks of these Scots after Porphyry, "qui vivit sous Augustin et Diocletien dans le troisième siècle." See D'Anville's "Etats formés en Europe après la chute de l'Empire Romain en Occident." Pars. v., p. 232.

²¹ Erasmus reads, "Seythicas gentes"; however, such terms little alter the signification as applying to the Scots. See *ibid.*

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mond, Queen of Robert III, viz., the royal and Drummond arms impaled, and of the Earl of Douglas. Occasionally there is a date, but this seems generally more modern than the erection of the cross, and seems to mark either a removal or restoration. On the cross of Biggar there are two dates—1633, which may be the time of its first erection, while on a stone above the old capital is the date 1694, with the initials E. J. W., showing that at this date it had been repaired by John, sixth Earl of Wigton. Sometimes a coat of arms or crest was carved on the capital, as at Clackmannan, Kincardine, Doune, Coldingham, and many others.—*Architect.*

THE NEW TOWN HALL AND MUNICIPAL OFFICES, NEWRY.

A LOCAL CONTRACTOR'S TENDER ACCEPTED.

At the adjourned monthly meeting of the Board on yesterday—present, Mr. James MacMahon, J.P. (chairman), presiding, and fourteen other commissioners,—Mr. Joseph Livingstone moved the motion of which he had given notice to rescind the resolution of the 22nd February—"That the consideration of tenders for the erection of the proposed Town Hall be adjourned for six months." The motion was seconded by Mr. Rice. On being put to the meeting, it was carried by seven votes to four.

Mr. Livingstone then moved, and Mr. Rice seconded, the motion "That the tenders be opened."

Mr. Livingstone said that, in moving the motion which stood in his name, he thought the turn events had taken since, had more than justified his action, and that he had taken the only and proper course, seeing that Mr. Fowler, after mature consideration, had withdrawn his motion to undo two years' work, and to erect the Town Hall on the site of the Savings Bank.

Mr. McCartan said the giving of the contract to a local firm would conduce to the best results. Everyone to whom the working man paid a shilling would benefit by it. It was their duty to see that employment was given to local men, and that the ratepayers' money should be spent to local advantage. If Mr. Mahood got the contract, it would only mean an expenditure of £300 or so over the lowest tender they had received. They, as commissioners, should always aim at maintaining the position of and benefiting the town.

The motion was agreed to, with only two dissentients.

There was only one tender—that of Mr. David Mahood, for £7,177, which, on the motion of Mr. Daniel Dowdall, seconded by Mr. Renshaw, was accepted.

Our valued contemporary, the *Telegraph*, prints, in its issue of this date, some well-timed and judicious remarks on the part taken by the Commissioners to bring to an end what has been looked upon all through as a very silly dispute.

The publication of Mr. Batt's sketch should favorably convey to the towns-folk what a splendid building will shortly arise on the new Clanrye Bridge.

"If all goes on well (says the *Telegraph*) a few days will see the first stone of the New Town Hall laid; and from that time forward there is no reason to believe that the work will not progress satisfactorily to completion. We hope that wind and weather will prove

propitious; that strikes will not vex the soul of the contractor, and introduce an element of discord into the midst of the community; and that everything will progress so favourably that the allotted time will not have elapsed until the New Town Hall is an accomplished fact. . . . There was a sufficient number of the Commissioners who took the common-sense view—that what had been done should be undone at the eleventh hour. Mr. Livingstone, who rushed into the breach, and who was backed up by Mr. Renshaw, and all who voted on the same side, are to be congratulated upon this happy result; and the townspeople are to be felicitated upon the fact that they are about to see the fruition of their hopes."

INSANITARY CONDITION OF CHICAGO AND THE WORLD'S FAIR.*

IN view of the fact that in the year 1893 the city of Chicago will be visited by vast numbers of people, who will be attracted thereto by the great World's Fair, it is important that the sanitary condition of the place shall be such as to remove the feeling of uneasiness among those who will resort to it for purposes of pleasure. At the present time, however, this cannot be said to be the case, as typhoid fever is shown to have a tenacious grip on the city, where it is estimated that no fewer than twenty thousand cases of the disease occurred in the year 1891, the total number of deaths from this cause in the twelve months named having been 1,997. The whole question has been carefully worked out in a paper read before the American Statistical Association recently by Prof. W. T. Sedgwick, of the Massachusetts Institution of Technology, and Mr. Allen Hazen, chemist to State Board of Health at Lawrence, and the results given above are those which this communication revealed. The Health Commissioner of Chicago has called the figures into question, and has characterised the statements as ridiculous; but, as proved by accurate examination of the mortality returns of the city, they are only too well founded, while in January of the present year no fewer than 219 deaths from typhoid fever took place in Chicago. The prevalence of the disease is attributed to the unsatisfactory condition of the water supply of the place, which is at present derived from the river, and is occasionally polluted with sewage. In view of these facts it is very properly insisted on that immediate steps should be taken to improve the character of the supply, which it seems can easily be done by carrying out certain measures to ensure an absolutely uncontaminated supply. That no time ought to be lost in securing so necessary a reformation is apparent, and especially when it is reflected that the floating population of Chicago will be so largely augmented by the rush of visitors from all parts of the world who will hurry to the Exhibition to be held there next year.

PETROLEUM ENGINES.*

DURING the Royal Agricultural Society's Show at Plymouth in 1889, the author tested explosion-motors worked with petroleum. The engine of Messrs. Priestman Brothers was the only one at that time capable of burning a really safe oil, and which had stood the test of practical working in the hands of various users of power. The tests showed that the engine worked with a very high thermodynamic efficiency. Recently the author had had fuller opportunities for experimenting with this engine, and as the results showed that it worked with remarkable

economy, the experiments seemed to be important enough to be placed before the Institution.

Liquid fuel had been used (1) in place of coal to generate steam; (2) in spirit- or naphtha-engines, in which the oil was employed both as fuel and working agent; (3) as oil-vapour to be exploded in internal-furnace engines; (4) converted into oil-gas at high temperature to be similarly used. In the author's opinion, there was no clear evidence that in this country steam could be produced as cheaply from oil as from coal. Spirit or naphtha-engines required a description of oil which was expensive and dangerous. In the production of oil-gas there were difficulties of cost. Hence if oil was to be used, or generating motive power, the method of vaporizing it at low temperature, mixing it with air and exploding it in an internal furnace engine, offered the greatest advantages. But in vaporizing the oil practical difficulty arose out of the complex constitution of the liquid. Vaporized in bulk, a comparatively useless residue was formed; vaporized in small quantities on hot surfaces, tarry products were produced which clogged the engine. In a petroleum engine, in which the fuel was introduced into the cylinder without the loss involved in working a gas-producer, the thermodynamic efficiency might be expected to be more than double that of a steam-engine and boiler.

The author gave a short account of the earlier petroleum engines, and then described the Priestman engine. In this a jet of oil, controlled by the governor, and a current of air, were mixed with a spraying nozzle, which reduced the oil to very fine particles. The mixed air and spray were received in a vaporizing chamber, heated by a jacket through which the exhaust of the engine passed. During the suction stroke, an additional air supply, also regulated by the governor, entered the vaporizer, and drove forward the charge into the cylinder. The charge was compressed, ignited by an electric spark, expanded doing work, and finally was exhausted, the cycle being the same as in the Otto gas engine.

Trials of a 5-H.P. Priestman Engine.—This was a horizontal engine with cylinder 8½ in. in diameter, and 12 in. length of stroke, making normally 200 revolutions per minute. The cylinder was water-jacketed. Thermometers were placed in the inlet and outlet of the jacket, in the outlet from the vaporizing chamber and in the exhaust. Indicator diagrams were taken every fifteen minutes. A rope friction-brake was employed. Two oils were used, respectively of Russian and American origin. The air was measured by an anemometer.

To compare the fuel consumption with that of a steam-engine, 1 lb. of oil might be taken as equivalent to 1½ lb. of coal. The lowest known consumption of steam in steam-engines was 12.45 lbs. per I.H.P. per hour, in a large triple Sulzer engine. This would correspond to 1.61 lb. of coal per brake H.P. per hour.

The author compared the cost of working of the oil engine with that of steam and gas engines.

Applications of the Oil Engine.—On all occasions when the author had had one of these engines under observation, it had been started without difficulty, and worked without any hitch. It appeared to require little more attention than a gas engine, and had been adopted as a motor for a great variety of purposes. Amongst these, the following special applications might be mentioned:—Oil engines had been constructed for pumping, the pumps being driven by gearing. Such an arrangement could be adopted conveniently in mines. As a 5-H.P. engine only required about 50 lbs. of oil per day, the trouble of bringing fuel to the engine was inconsiderable. Such a pump might be substituted for one worked by compressed air, being more efficient and as easily placed at any working point.

* From the *Medical Press*.

* By Prof. W. C. Unwin, F.R.S. Read at meeting of Institution of Civil Engineers, London, on the 8th inst.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 68.)

THE following are the lists of Parliament summoned and held in Ireland from the year 1695 to 1800, viz.:—that commencing in 1695, August 27th, ended 1699, June 14th; one commencing 1703, September 21st, ended 1713, May 6th; one commencing 1713, November 25th, ended 1714, August 1st; one commencing 1715, November 12th, ended 1727, June 11th; one commencing 1727, November 28th, ended 1760, October 25th; one commencing 1761, October 27th, ended 1768, May 28th; one commencing 1769, October 17th, ended 1776, April 5th; one commencing 1776, June 18th, ended 1783, July 25th; one commencing 1783, October 14th, ended 1790, April 8th; one commencing 1790, May 20th, ended 1797, July 11th; one commencing 1798, January 9th, ended with the Legislative Union, 1800, December 31st.¹

From 1695 to 1699, John Weaver, junior, Esq., and Robert Warneford, Esq., were Members of Parliament for the Queen's County; Sir Edward Massy, knight, and Walter Weldon, Esq., represented the Borough of Ballynakill; John Weaver, senior, Esq., and St. Leger Gilbert, Esq., were the Members for the Borough of Maryborough; while the Borough for Portarlinton had for its representatives, Sir James Williamson, knight, Richard Warburton, junior, Esq., and George Warburton, Esq., in place of Joseph Williamson.²

In the Parliament which sat from 1703 to 1713, the following were the Members for the Queen's County, viz., Dudley Cosby, Esq., and John Weaver jun., Esq.; for the Borough of Ballynakill, John Barrington, Esq., and Arthur Gore, Esq., were Members; St. Leger Gilbert, Esq., and Robert Pigot of Disert, Esq., were representatives for the Borough of Maryborough; while Richard Warburton, Esq., and Thomas Carter, Esq., represented the Borough of Portarlinton.³

In the Irish Parliament of 1713-1714, Dudley Cosby, Esq., and Richard Fitzpatrick, Esq., were Members for the Queen's County; Thomas Medicott, Esq., and John Barrington, Esq., sat for Ballynakill Borough; Robert Pigott, Esq., and William Wall, Esq., represented Maryborough Borough—it having been found that Gerald Bourke, of the City of Dublin, Esq., and Edward Dodsworth, Esq., had not been duly returned; while Ephraim Dawson, Esq., and Richard Warburton junior, Esq., sat for Portarlinton Borough.⁴

In the Irish Parliament of 1715-1727, Dudley Cosby, Esq., and Ephraim Dawson, Esq., represented the Queen's County; the Borough of Ballynakill had for its Members Samuel Freeman, Esq., and John Weaver, Esq., or by another Indenture General Owen Wynne and John Barrington, Esq.; the Borough of Maryborough had for its Members, Robert Pigot, Esq., and William Wall, Esq.; while Portarlinton Borough was represented by Richard Warburton, of Portnabinch, Esq., and Richard Warburton, of Rathdrumshane, Esq., but John Short, Esq., sat in the room of Richard Warburton, of Portnabinch, Esq., deceased, and Lancelot Sandys, Esq., sat in place of J. Short, deceased.⁵

In the Irish Parliament of 1727-1760, Dudley Cosby, Esq., and Ephraim Dawson were Members for the Queen's County, as also Richard Warburton, Esq., in place of Dudley Cosby, deceased, and George Evans, Esq., in place of Ephraim Dawson, deceased; Ballynakill Borough was represented by John Barrington, Esq., and Richard Warburton, Esq., but also Jonah Barrington, Esq., sat in place of Richard Warburton, deceased, and Marcus Paterson, Esq., sat in place of John Barrington, deceased; Maryborough Borough had for its Members, Robert Pigot, Esq., and William Wall, Esq., also Warner Westenra, Esq., sat in place of Robert Pigot, deceased, also John Pigott,

Esq., sat in place of William Wall, deceased, while Bartholomew William Gilbert, Esq., sat in place of John Pigott, Esq., not duly elected; the Members for Portarlinton Borough were William Flower, Esq., and George Johnston, Esq., also William Stannus, Esq., in place of George Johnston, deceased, also Right Hon. Lord George Sackville, in place of William Flower, Lord Castle Darrow, and William Henry Dawson, Esq., in place of William Stannus, deceased.⁶

In the Irish Parliament of 1761 to 1768, the Members for the Queen's County were William Henry Dawson, Esq., and William Pole, Esq.; the Members for Ballynakill Borough, were Marcus Paterson, Esq., and Charles O'Hara, Esq.; the Borough of Maryborough was represented by William Gilbert, Esq., and the Hon. Colonel Eyre Coote, however, John Parnell, Esq., displaced Colonel Coote, not duly elected, and Hunt Walsh, Esq., sat in place of William Gilbert, deceased; the Members for Portarlinton Borough, were George Hartpole, Esq., and William Henry Dawson, Esq., who made his election to serve for the County, while John Damer, Esq., succeeded in place of William Henry Dawson, and John Dawson, Esq., replaced George Hartpole, deceased.⁷

In the Irish Parliament of 1769 to 1776, the Queen's County was represented by the Right Hon. William Pole, and John Dawson, Esq.; the Members for Ballynakill Borough, were William Montgomery, Esq., and John Moore, Esq.; for Maryborough, sat Sir John Parnell, and Hunt Walsh, Esq.; while the Borough of Portarlinton had for its members, John Dawson, Esq., and Roger Palmer, Esq., also William Henry Dawson, Esq., in place of said John Dawson, who made his election to serve for the county, and Joseph Dawson, Esq., in place of William Henry Dawson, Lord Dawson.⁸

In the Irish Parliament of 1776 to 1783, the Queen's County Members were Hon. John Dawson, and Charles Henry Cook, Esq., as also John Warburton, Esq., in place of Hon. John Dawson, Lord Viscount Carlow; for Ballynakill the Members were Sir William Montgomery, bart., and William Burton Esq., of Burton Hall, as also John Moore, Esq., in place of William Burton, who made his election for Carlow; the Borough of Maryborough was represented by Sir John Parnell, bart., and Hon. Robert Jocelyn, commonly called Lord Viscount Jocelyn, afterwards John Tydd, Esq., succeeded Lord Jocelyn, unduly elected, while Right Hon. Richard Fitzpatrick succeeded in place of Sir John Parnell, deceased; the Borough of Portarlinton was represented by Hon. John Dawson, and Roger Palmer, Esq., while the Hon. Joseph Dawson succeeded John Dawson, who made his election for the Queen's County.⁹

In the Irish Parliament of 1783 to 1790, the following were representatives for the Queen's County Sir John Parnell, bart., and John Warburton, Esq.; Ballynakill Borough was represented by Sir Annesley Stewart, bart., and Sir William Montgomery, bart., as also by John Moore, jun., Esq., in place of Sir Annesley Stewart, who made his election for Charlemont, and by John Egan, Esq., in place of Sir William Montgomery, deceased; Maryborough had for its Members, Sir John Parnell, bart., and Charles Henry Coote, Esq., as also Right Hon. Sir Arthur Brooke, bart., in place of Sir John Parnell, who made his election for the Queen's County; Portarlinton Borough was represented by the Right Hon. John Scott, and Thomas Kelly, Esq., while Sir Boyle Roche, bart., afterwards sat in place of Thomas Kelly, Justice of the Common Pleas, and Robert Hobart, Esq., sat in place of Right Hon. John Scott, Lord Baron Earlsfort.¹⁰

In the Parliament of Ireland from 1790 to 1797, the Queen's County was represented by Right Hon. Sir John Parnell, bart., and the Hon. Edward Moore, commonly called Lord

Moore, and afterwards John Warburton, Esq., sat in place of Hon. Edward Moore; Ballynakill Borough had for its Members, John Tydd, Esq., and Colonel Eyre Coote; the Borough of Maryborough was represented by Charles Henry Coote, Esq., and Samuel Hayes, Esq., while the Hon. John Vesey, sat afterwards in place of Samuel Hayes, Esq., deceased; Richard Cavendish, Esq., and William Browne, Esq., were Members for Portarlinton Borough.¹¹

In the Irish Parliament which sat from 1798 to 1800, the County Members were Right Hon. Sir John Parnell, bart., and Charles Henry Coote, Esq.; the Borough of Ballynakill was represented by the Hon. Montague Mathew, and Captain John Longfield, while David Walshe, Esq., replaced Mr. Mathew, who accepted the office of Escheator of Munster, and Francis Trench, Esq., replaced David Walshe, who accepted office as Escheator of Munster; the Members for Maryborough were, General Eyre Coote, and Henry Parnell, Esq., while Colonel Edward Dunne succeeded General Coote, who accepted office as Escheator of Munster; the Right Hon. Sir John Parnell, bart., and John Stewart, Esq., of Aughinree, County Tyrone, sat for Portarlinton Borough, while Frederick Trench, Esq., succeeded Sir John Parnell, who made his election for the Queen's County, and Thomas Stannus, Esq., succeeded Mr. Stewart, who made his election for Bangor, afterwards William Gregory, Esq., sat in place of Mr. Stannus, who accepted office as Escheator of Leinster.¹²

(To be continued.)

CAST IRON TANKS.*

THE remarks which I am about to make refer particularly to two water-tanks lately erected—one an oblong vessel 28' 6" x 26' 3" x 15' 6" deep, and the other a circular vessel 25' 8" diameter x 23' 0" deep. A few general observations will be submitted in the first place.

Why are cast iron tanks adopted so extensively as they undoubtedly are? Advantages in cost, durability, and convenience, will probably be found to be the reasons that decided in favour of cast iron as the material to be used. As to cost, cast iron tanks may roughly be taken, weight for weight, at two-thirds that of wrought iron. A cast iron tank may thus be made one-half thicker than a wrought iron tank, for the same expense. The question of durability is closely allied as a $\frac{3}{4}$ " cast iron plate will last longer than a $\frac{1}{2}$ " wrought iron plate. Possibly, cast iron has the advantage in durability, even if the thickness be the same; and in some cases cast iron will resist corrosion much better than wrought iron. As compared with wood vessels, I believe the best quality of wood is nearly as expensive as cast iron, while wood cannot be said to be at all so durable. For some purposes, of course, wood vessels are very largely used.

For the tanks of gas holders, either masonry or cast iron is generally used, as representing the most durable materials. In convenience, cast iron has the advantage of being bolted together and can be erected in situations where riveting would be undesirable or expensive. If, then, cast iron be selected, the following considerations arise, apart from the size of the tank—viz., dimensions of plates, thickness of plates, method of staying, method of jointing.

Size of Plates.—Of course the larger the plate the less jointing, but, for several reasons, it is not advisable to have the plates too large. Probably from 14 to 18 superficial feet in each plate will be a fair working size. This will allow of ease in handling and casting, and is not too large to replace, if at any time a plate be broken. Thickness of plates will depend on the depth of the tank, the ribs on the plates, and the method of staying adopted. In connection with the thickness

¹ See "Parliamentary Papers," Session January—16th August, printed in 1878, vol. lxii, part ii, No. 17, p. 640.

² See *ibid.*, p. 643.

³ See *ibid.*, p. 647.

⁴ See *ibid.*, p. 651.

⁵ See *ibid.*, pp. 651, 655.

⁶ See *ibid.*, p. 661.

⁷ See *ibid.*, p. 667.

⁸ See *ibid.*, p. 671.

⁹ See *ibid.*, p. 676.

¹⁰ See *ibid.*, p. 680.

¹¹ See *ibid.*, p. 685.

¹² See *ibid.*, p. 690.

* By Mr. William Ross, Member. Read at Institution of Civil Engineers of Ireland, on 9th inst.

At the King's County Spring Assizes, on the 4th inst., the case of Campsie v. the Great Southern and Western Railway Company was heard before Mr. Justice Harrison and a special jury, in which matters of considerable importance to workmen were involved. Plaintiff was a plumber, residing at Athlone, and a frequent passenger on the railway. He had been in the habit of carrying his tools on the railway with him, either in the carriage or in the van. On the 5th of December last, plaintiff was returning from Clara to Athlone, with a return-ticket, and, as usual, placed his tools and some bits of

pipin in the van. The total weight was admitted not to have exceeded that allowed a third-class passenger. The guard of the train refused to carry them, as not being "passenger's luggage," and threw the articles out of the van on to the platform, and started the train. There was no other train to Athlone before the following Monday morning, and plaintiff was obliged to drive to Moate in very severe weather, and contracted, as he alleged, a severe cold, which laid him up for a considerable time. Having complained to the secretary of the company, he received a reply justifying the guard's action, and stating that the company would not carry workmen's tools as "passenger's luggage." Plaintiff proved that the whole object of his journey was to execute a contract for a plumbing job, and that his journey would be fruitless without his tools. He also proved that he had never been prevented on any other line in England, Scotland, or Ireland; and that if he had to pay for his tools as passenger's luggage, he must leave the country. Defendants' case was that tools were not personal luggage—that there were plumbing materials also carried; they paid £15 into court. The jury found that the baggage carried by plaintiff was his "ordinary luggage," and they found £10 for plaintiff over the £15 lodged in court.

NOTES OF WORKS.

Mr. Ballintine, builder, Londonderry, has a large staff of workmen employed in making extensive additions and alterations to the Swilly Hotel, Buncrana, Co. Donegal, under the superintendence of Mr. Barker, C.E. The works are being pushed forward vigorously, so as to have the additions completed and furnished for occupation by visitors at this now fashionable seaside resort.

Messrs. William Conolly and Son, contractors for the new Fish and Vegetable Markets, Mary's-lane, have made fair progress with the works: the walls are now up and ready for roofing. The enclosed space measures 336 ft. 6 in. by 195 ft., and will be covered by an iron roof composed of eight arches, which will be separated by fifty-six columns. The market will be provided with store-rooms, male and female refreshment rooms, caterer's room, cloak room, superintendent's offices, &c. The piers from which the arches spring are of Ballynocken granite, and the red brick for walls are from the Portmarnock and Harold's Cross brickworks. The lining, 5 ft. high of blue and white glazed bricks, will add to the cleanliness of the interior. There will be six entrances to the market. Messrs. Lysaght, of Bristol, are the contractors for the ironwork. The plans were prepared by Mr. Spencer Harty, C.E., Borough Surveyor; and the work is carried on under the superintendence of Mr. Charles O'Toole, clerk of works.

THE MILLER MEMORIAL CROSS. — Our readers (says the *Wexford Independent*) will remember that in a recent issue Lord Maurice Fitzgerald announced that the recumbent memorial cross to our late esteemed resident magistrate, Colonel Miller, was placed on the grave at Ratbaspeck on the 21st of January last. We have since seen this beautiful work of art, which was executed by Messrs. C. W. Harrison and Sons, Architectural and Monumental Sculptors, Great Brunswick-street, Dublin, and certainly we can say that the greatest care and attention appear to have been devoted to the execution of the work, so as to render it as complete and appropriate as possible. It is a credit alike to the famous firm to which the contract was entrusted as to those who contributed so spontaneously towards its cost. The memorial is composed of hard Sicilian marble and Carlow limestone, and takes the form of a cross upon a rocky surface, from which ivy is represented growing and clambering over the sides and face of the cross. Around the chamfered edges of base is the following inscription:—Erected

by the magistrates, petty sessions' clerks, and the officers and men of the Royal Irish Constabulary stationed in County Wexford, as a token of the high esteem in which they held their late resident magistrate, Colonel Miller. Born 3rd February, 1827; died 2nd July, 1891. Served in the following campaigns—Burmah, 1852-3; Crimea, 1855-6; Indian Mutiny, 1858-9; Bhootan, 1865. "Verily, verily, I say unto you, he that believeth in Me hath everlasting life."—(St. John vi. 47.)

MISCELLANEOUS.

THE LORD ARDILAUN MEMORIAL.—At a meeting of the Executive Committee on the 9th inst., Mr. Thomas Farrell, R.H.A., announced that he had completed the statue of Lord Ardilaun, and was ready to place it on the pedestal, when directed to do so. Mr. Flynn, of the Besbrook Granite Works, will have the pedestal finished by the 7th of May. The date for the unveiling of the statue will be published as early as possible.

YELLOW PINE FOR AGRICULTURAL IMPLEMENTS.—Experiments have been made at Rockford, Ill., to determine whether yellow pine could be used instead of hickory or ash for the poles, frames, and whippetrees of agricultural machines and implements. About the strength there was no question, but the difficulty was to make the yellow pine hold paint. Experiments in kiln-drying the wood have resulted in ascertaining that by that treatment the pitch is "set" and the life of it is killed, after which the surface will hold paint.

NATIONAL REGISTRATION OF PLUMBERS.—An examination of candidates for registration was held in the rooms of the District Council, 14 Fades-street, South City Markets, on the 16th and 17th ult. The candidates were first examined in the principles of plumbing, from examination papers sent over from London by the Worshipful Company of Plumbers. Subsequently their practical skill was subjected to very searching tests; they were examined in pipe-bending, joint-making, and lead-dressing. Seventeen candidates presented themselves for examination; of these six were passed and the rest were recommended to attend the plumbing classes, and present themselves again at the next examination.

A NEW PAVING BRICK.—Mr. W. N. Williams, in a letter to an American technical paper, gives particulars of tests made with a paving brick, which would seem to possess remarkable properties. The tests were made by the Mechanical Superintendent of the Union Pacific Railway shops at Omaha. The brick is known as the "Wade Paving Brick," and is the subject of a United States patent. One specimen, 7 square inches in area, was subjected to a crushing stress of 28,000 lbs. to the square inch, and then gave way by simply cracking in two. A piece of Sioux Falls granite 4 in. square, tested at the same time to afford a basis of comparison, crushed when subjected to 23,300 lbs. to the square inch. The brick is said to be made of fire clay, but in this case, we are told, the great strength of the material is due to a peculiar earth found in the neighbourhood of Omaha. It is not stated how much of the "peculiar earth" is required, but if the quantity is not excessive, one would think it would pay to import it and make these bricks in this country.

HOME-GROWN TIMBERS.—In reply to a question recently put to the President of the Board of Agriculture in the House Commons, Mr. Chaplin said that the board had certain powers to advance forestry in the United Kingdom, and that in Ireland the board appointed to deal with congested districts was planting on a somewhat large scale in Connemara. There can be no doubt that on land liable to become a bog in Ireland, planting is most important; the Scotch pine grows well on such soils, and drains up the sub-soil, draining the land with its spreading roots. Small land-holders will not plant, but prefer to sell hedge-row trees and sell them, and thus increase the tendency of the bog to extend; in fact, only public authorities can be expected to do much for planting in Ireland, and Mr. Balfour has provided for this in the powers to be conferred on District Councils under the new Irish Local Government Bill. The Board of Agriculture has also made grants for teaching forestry at Edinburgh and at Newcastle, but, unfortunately, has no power to direct the better management of forests on Crown lands in England. From all accounts, these forests are not nearly so productive as they might be, and if put under scientific treatment they would serve as admirable training grounds for the students of the new Schools of

Forestry. This is a great desideratum, as forestry can never be taught by mere lecturers, unless large areas of well-managed forests are available, were the results of the theoretical instruction afforded in the class-room may be practically demonstrated. In his manual of Forestry, vol. i., Dr. Schlieb has shown that if 6,000,000 acres out of the 27,000,000 acres given in the agricultural returns as waste land in the United Kingdom were made available for planting, we could produce at home the 6,000,000 loads of coniferous wood, oak, &c., that we import every year. In order, however, that such an extensive work may be undertaken, we should make a commencement by working up our Crown Forests to a high pitch of production.—*Timber Trades Journal*.

THE COAL TRADE.—Whatever may be the ultimate result of the stoppage in the coal trade, there seems but little doubt that merchants and agents will fare best at the outset. The general public,—especially those whose circumstances compel them to adopt a "hand-to-mouth" system with regard to coal,—are finding already that it will be a somewhat expensive experiment, as far as they are concerned. For the action of the miners in forcing a stoppage is regarded on all hands as an experiment, and one the effect of which is very difficult to forecast. The officials of the Miners' Federation are careful to state that they have no wish to raise the price of coal to the consumers; but it is difficult to see what else they could expect. Mr. Pickard, M.P., who may be said to have built up the Federation, justifies the stoppage in the following terms:—"(1) Because there is no lessened demand for coal. 2. The general public do not and will not gain any benefit if coal is lowered. 3. Because the lowering of the price of contract coal will do three things: (a) Lessen coal owners' profits; (b) lower miners' wages if allowed; (c) transfer or put into dividend-hunters' pockets the money coal owners and miners should have put into theirs. There is no depression in the coal trade," says Mr. Pickard, "and we are setting political economy at defiance, as we did in 1886. We were condemned then, as we are now, and as we expect to be condemned." It will be seen that the position of manufacturers (who are urgently pressing for relief in price of coal and coke) is passed over without any consideration, and yet our manufacturers,—especially in the iron and steel trades,—are losing much of their old supremacy in foreign markets mainly as a natural consequence of the higher wages obtained by this boasted policy of defiance. This is exemplified by the statistics recently published by the Board of Trade with respect to contracts for railway materials for Egypt. Before the year 1889, we are told, English manufacturers almost invariably secured their orders for rolling-stock, &c., no Continental firms being able to quote so cheaply. Since that year, however,—i.e., following upon the general rise in wages so triumphantly referred to,—we have gradually had to give place to our foreign competitors, who have been able to offer prices we could not touch. Our quotations appear to have continued to advance, and last year, in an open contract for truck work, the lowest British tender was considerably higher than four separate Belgian and French quotations. When will the labour leaders recognise that it is a fallacy for them to regard these things as being no concern of theirs?—*Builder*.

Illustrations.

TOWN HALL AND MUNICIPAL OFFICES FOR NEWRY.

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THE HISTORY OF
THE CHURCH AND PARISH OF
ST. MICHAEL THE ARCHANGEL,
DUBLIN.

THE PAROCHIAL REGISTER.

(Continued from page 60.)

MARRIAGES.

1853-1872.

1853.

June 11. Andrew CRAWFORD, corporal, R.H.A., Portobello Barracks, and Maria TAYLOR, 75 Cook-street, by banns, by Rev. J. H. Monahan, curate.

July 4. John McDONALD and Mary Anne WARD, by banns.

July 23. Moses HUNTER, corporal, R. Artillery, Island Bridge Barracks, and Margeret CONBY, 42 High-street, by banns.

Sept. 14. Charles GOLDSMITH, private, R.A., Portobello Barracks, and Anne BUTLER, 75 Cook-street, by banns.

1854.

May 6. George WHITE, private, 9th Regt., Ship-street Barracks, and Anne ARMSTRONG, 8 Merchants'-quay, by banns.

May 14. Thomas SHAW, clerk, 13 Upper Dominick-street, and Julia JONES, 2 Merchants'-quay, by licence.

May 30. Henry ANDERSON, Castlepollard, and Anna Maria NIXON, 13 High-street, by licence, by Rev. Wm. Chichester (last time Rev. W. C. signs Reg.).

1855.

Jan. 22. William HURST, private, 3rd Dragoon Guards, Royal Barracks, and Eliza HILL, 9 Merchants'-quay, by banns.

April 9. John DYAS, 48 High-street, and Anne FENN, by banns, by Rev. James H. Monahan (last time Rev. J. H. M. signs Reg.).

Oct. 17. Thomas SMYTH, 77 Cook-street, and Sarah FITZGERALD, of same place, by banns, by Rev. John H. King.

1856.

March 24. Michael BYRNE and Amelia Anne DERRESS, by licence, by Rev. George C. Williams, curate.

1857.

Sept. 1. John AMOS, private in Coldstream Guards, Royal Barracks, and Eliza MACLEAN, 12 High-street, by licence.

Nov. 4. Tobias HANDCOCK, Lieutenant, late 27th Regt., Eagle Cottage, Sandymount, and Jane Grace HUTCHINGS, nee Freeman, by licence, by George C. Williams.

1858.

Sept. 23. John Joseph WHITFIELD and Sarah BIGGER, by banns, by Rev. George Shea, A.M.

1859.

Augt. 29. John KEATING and Elizabeth BIGGER, by banns.

Oct. 10. William BEATTIE and Margaret LARKIN, widow, by banns.

Dec. 10. Thomas D'O'LY, gentleman, 11 Michael's-hill, and Theresa Agnes SINNOTT, 9 Michael's-hill, by banns.

1860.

Jan. 16. John WYNN, private 3rd Batt. Grenadier Guards, Royal Barracks, and Mary WILLIAMSON, by banns.

June 25. Joseph DAVIS and Emily CURTIS, banns, by Rev. Robert Flemyng.

Oct. 18. Daniel OLIVER and Belinda BOYLE, by banns.

1861.

Oct. 21. Thomas LONGMORE, and Anne DONNELLY, by banns, by Rev. William C. GREENE.

1864.

May 9. James ARCHER, law clerk, 7 Merchants'-quay, and Eliza HIGGINS, by banns, by Rev. Robert Flemyng.

1866.

Feb. 26. William O'NEILL, 48 High-street, and Martha MOFFATT, by banns, by Rev. Edward Seymour, M.A., Preb.

1867.

Jan. 21. Timothy LYONS and Florinda DOUGHERTY, by banns.

1869.

March 29. WILLIAM ELLIS and Ellen VERDIN, by banns, by Rev. Robert Flemyng.

April 1. Richard GILL, master of Brig *Lady*

Mulgrave, Sir John Rogerson's-quay, and Bridget CODY, 7 Michael's-hill, by licence.

1870.

July 11. Scholfield, law clerk, 1 Upper Cross Road, parish of S. Peter, and Louisa Leeson COLGAN, spinster, High-street, by licence, by Rev. William C. Greene.

END OF MARRIAGES.

ADDENDA.

MARRIAGES.

From Visitation Return.

1740.

July 1. Fras. CEARY and Susana WILKINSON, by licence.

Sept. 20. The Rev. Peter LUMBARD and Mary HENDRICK.

BURIALS.

1740.

April 12. Richd. HOWARD.

April 27. Rev. Mr. John GILL.

CHURCHWARDENS OF ST. MICHAEL'S.

1665-1872.

1665 Henry Warren

1666 William Robinson

1667 Di. Wybrants, Ald.

1668 Henry Reynolds

1669 David Sallom

1670 John Coyne

1671 Henry Aston

1672 Edward Surdeville

1673 John North

1674 Thomas Raynor

1675 John Smith

1676 Thomas Raynor

1677 Henry Stevens

1678 William Fisher

1679 William Ormsby

1680 Richard Ryves

1681 George Warburton

1682 Jeremiah Berstow

1683 John Kennedy

1684 John Kennedy

1685 Garrett Grace

1686 (Grace signs himself *Gervois-Grace*)

1687 William Wise

1688 Michael Christian

1689 Michael Christian

1690 Nicholas Taylor

1691 Michael Christian

1692 George Cooke

1693 James Fisdall

1694 John Foster

1695 Charles Pitt

1696 William James

1697 John Langdon

1698 Henry Rogers

1699 James Spicer

1700 John Markham

James Spicer

1691 Henry Wetherall

1692 William Mitchell

1693 Vincent Kidder

1694 Richard Winn

1695 John Billop

1696 Joseph James

1697 Wm. Handcock, jun.

1698 Benjamin Mead

1699 John Acton

1700 Edward Gray

1696 John Acton

1697 Robert Cheatham

1698 Robert Cheatham

1699 Thomas Busby

1698 David King

1699 Caleb Thomas

1699 John Warren

1700 James Dugon

1700 John Christian

Alexander Barlow

1701 James Langley

1702 Thomas Acton

1703 John Nevell

1704 Benjamin Taylor

1705 William Parry

1706 John Hayes

1707 William Acton

1708 John Mo-son

1709 John Gill

1710 William Peters

1711 John Gill

1712 John Ware

1713 Thomas Meredyth

1714 James Shalcross

1715 Thomas Meredyth

1716 George Roe

1717 Thomas Meredyth

1718 Robert Pearson

1719 Thomas Meredyth

1720 Robert Pearson

1721 John Mossion

1722 John Hinde

1723 Philip Wilkinson

1724 John Lindsay

1725 Philip Wilkinson

1726 Thomas Lindsay

1727 Charles Hendrick

1728 Samuel Bryan

1729 Charles Hendrick

1730 Samuel Bryan

1731 Laurence Eustace

1732 George Bonns

1733 Laurence Eustace

1734 Samuel Fairbrother

1735 Samuel Fairbrother

1736 Abraham Slater

1737 John Taylor

1738 George Clark

1739 John Taylor

1740 Denis Doyle

1741 John Sinclair

1742 Patrick Sinclair

1743 John Sinclair

1744 Charles Ward

1745 Edward Hamilton

1746 William Reynolds

1747 Edward Wale

1748 Patrick Warren

1749 (Henry Lind-ay

was elected, but

he paid a fine of

£5 5s exemption,

and Edward Wale

was elected in his

stead)

1725 Anthony Tennant

1726 Joseph Phillipson

1727 Joseph Phillipson

1728 Luke Dillon

1729 Luke Dillon

1730 Thomas Beaumont

1731 James Magan

1732 John Phelan

1733 James Magan

1734 John Phelan

1735 Luke Dowling

1736 John Fox

1737 Luke Dowling

1738 Richard Seacome

1739 Richard Seacome

1740 Nicholas Andrews

1741 Nicholas Andrews

1742 Richard Cox

1743 William Bullen

1744 James Lynch

1735 James Concannen

1736 James Lynch

1737 Thomas Brown

1738 Joseph Langley

1739 Thomas Brown

1740 Loftus Tenant

1741 Loftus Tenant

1742 Thomas Crosby

1743 Thomas Norton

1744 Michael Donohoe

1745 Edward Tonge

1746 Michael Donohoe

1747 Edward Hendrick

1748 Patrick Warren

1749 Patrick Warren

1750 William Saunders

1751 William Saunders

1752 Thomas Connell

1753 Thomas Connell

1754 John Moore

1755 Thomas Doyle

1756 Robert Lawless

1757 Thomas Doyle

1758 Oliver Nelson

1759 Oliver Nelson

1760 William Powell

1761 William Powell

1762 Thomas Sharman

1763 Thomas Sharman

1764 John Hutchison

1765 John Hutchison

1766 Septimus Cecil

1767 Septimus Cecil

1768 Thomas Constable

1769 John Elliott

1770 Thomas Constable

1771 John Elliott

1772 James Willson

1773 James Willson

1774 John Reed

1775 John Reed

1776 Henry Saunders

1777 Henry Saunders

1778 Daniel Bullen

1779 George Mitchell

1780 George Mitchell

1781 William Whitestone

1782 William Whitestone

1783 William Goodwin

1784 William Goodwin

1785 Michael Sharman

1786 Michael Sharman

1787 Hugh Gregg

1788 Hugh Gregg

1789 John Pursell

1790 John Pursell

1791 Ambrose Leet

1792 George Elliott

1793 George Kathrens

1794 George Kathrens

1795 George Kathrens

1796 George Kathrens

1797 Peter Taylor

1798 Peter Taylor

1799 Ralph Mulhern

1800 Ralph Mulhern

1801 Thomas Allt

1802 Thomas Allt

1803 John Johnston

1804 John Johnston

1805 William Moore

1806 Robert Mahon

| | |
|---------------------|--------------------------|
| 1838 James Thompson | William Jeffars |
| Thomas Briscoe | 1853 Charles Brien |
| 1839 Charles Brien | Thomas Saul |
| William Dillon | 1854 Charles Brien |
| 1840 Thomas Saul | Thomas Saul |
| William Lightfoot | 1855 Charles Brien |
| 1841 Charles Brien | Thomas Saul |
| James Thompson | 1856 Charles Brien |
| 1842 Thomas Saul | Thomas Saul |
| Charles Brien | 1857 Thomas Saul |
| 1843 Charles Brien | 1858 Charles Brien [No |
| James Thompson | vestry was held |
| 1844 Thomas Saul | this Easter] |
| Thomas Briscoe | 1859 Samuel Jones |
| 1845 Charles Brien | Richard Allen |
| James Thompson | 1860 Charles Brien [No |
| 1846 Thomas Saul | vestry meeting] |
| Thomas Briscoe | 1861 Charles Brien [No |
| 1847 Charles Brien | vestry] |
| James Thompson | 1862-68 Charles Brien |
| 1848 Thomas Saul | [No vestry] |
| Thomas Briscoe | 1869 Robert S. Greenhill |
| 1849 Charles Brien | Charles Brien |
| James Thompson | 1870 Do. do. |
| 1850 Thomas Saul | Charles H. Wood- |
| Thomas Briscoe | roffe, Q.C. |
| 1851 Charles Brien | 1871 Charles H. Wood- |
| William Jeffars | roffe, Q.C. |
| 1852 Charles Brien | Robert S. Greenhill |

St. Michael's parish was united with the parishes of St. Audoen and St. Nicholas Within, in 1872.

(To be continued.)

BIRMINGHAM WATER SCHEME.—The engineer for this undertaking, Mr. James Mansergh, C.E., has prepared his Parliamentary estimate of expenses for the above, which including all works and contingencies, he sets down at £5,851,000.

THE FOG QUESTION.—It seems to be a recognised function of the House of Lords to utter from time to time a note of warning on the subject of London smoke and fog, coupled with the suggestion of heroic remedies, the adoption of which is to be pressed upon the Legislature as a public duty, without much consideration either of the scientific possibilities of the course recommended, or of the practical working of the legislation to be set in operation. Viscount Middleton's speech was in the traditional style of utterances of this kind in the Upper House. A Royal Commission was to be appointed (which after many months would probably tell us only what we know already), and the inhabitants of London were to be subjected to a system of house-to-house visitation on the part of officials who were to see that they burned only one kind of coal and used only an improved pattern of grate. People are naturally liable, when under the infliction of a London fog impregnated with smoke, to curse their existences for the moment and to feel that "somebody ought to be hanged for this." But if the whole population of London were condemned to sit by black and cheerless fires, under the penalty of an inspector demanding entrance to their Penates at any moment to report them for a fine, we should soon have a more dire onery on the other side. One course, however, we will suggest, which it may be possible to carry out, which need not involve discomfort or serious expense, and for which it might be practicable to legislate. This would be, to enforce, within the boundaries of London, the use of gas for cooking. A considerable proportion of what may be called "private smoke" arises from kitchen fires, even in winter, and in summer of course they form the principal source of it. The adoption of gas would relieve us from this proportion of smoke, and though it would entail a certain expense in the installation, it is in the long run cheaper than coal cooking, besides having many other advantages in point of convenience.—*Builder.*

The Irish Builder.

NOTICE.

We shall be glad to receive notes of works in contemplation or in progress in town or country.

All communications for the literary department of this journal should be addressed to "The Editor."

Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42 Mabbotstreet, Dublin, whose receipt alone is recognised.

Correspondents should send their names and addresses, not necessarily for publication.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 775.

ASSISTANT COUNTY SURVEYORS
AND THEIR SALARIES.

WE learn that the following Bill to enable Grand Juries in Ireland to increase the remuneration of assistant county surveyors, and for other purposes relating thereto, has been introduced:—

Whereas, by certain Acts passed in the sixth and seventh years of King William IV. and the twenty-fourth and twenty-fifth years of her present Majesty, certain provisions are made relating to the salaries of assistants to county surveyors in Ireland; and by section seven of the last recited act it is provided that each of such assistants shall be paid such salary, not exceeding £80 per annum, as the Grand Jury shall direct, and the same shall be presented by the Grand Jury by half-yearly instalments at each assizes:—

And whereas it is expedient to make other provisions relating to the said offices, and to amend the said act:

And whereas it is expedient that provision should be made to enable superannuation allowances to be granted by Grand Juries to assistant county surveyors:

Be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. This act shall be called 'The Assistant County Surveyors' Act (Ireland), 1887.'

2. It shall be lawful for the Grand Jury of any county in Ireland, if they shall think fit, at any spring assizes for such county which shall be held after the passing of this act, to determine by resolution, in writing, that the yearly salary payable to any assistant county surveyor shall be raised to such yearly salary, not exceeding one hundred and fifty pounds, as the Grand Jury shall think fit; and the foreman of such Grand Jury shall endorse on the resolution so passed the word 'approved,' and the amount of the annual salary approved, and the secretary of the Grand Jury shall submit the same to the next Presentment Sessions for the county at large for approval.

3. No assistant county surveyor shall be eligible for the appointment of county surveyor who shall, at the time of such appointment, be more than forty-five or less than twenty-six years of age.

4. Any Grand Jury in Ireland may, if they shall so think fit, with the consent of the Lord Lieutenant or other chief governor of Ireland, grant to any assistant county surveyor in their service who shall become incapable of discharging the duties of his office with efficiency, by reason of permanent infirmity of mind or body, or of old age upon his resigning or otherwise ceasing to hold his office, such annual allowance as they may think fit, not exceeding in amount two-thirds of the annual salary payable to such assistant at the date of his resigning or ceasing to hold office, and such allowance shall, after the grant of the same, from time to time be presented, without previous application, at Presentment Sessions, and shall be levied and raised in like manner in every respect as if the same were the salary of such person, and as if he had continued in office.

5. All allowances granted under this act shall be payable to or in trust for such

officer only, and shall not be assignable for, nor chargeable with, his debts or other liabilities.

Both county surveyors and their assistants were first appointed by Act of Parliament, 6 and 7 Wm. IV., 1835. Their salaries were increased by another act in 1862. In 1872 the Marquis of Hartington (then Chief Secretary for Ireland), introduced a bill called the County Officers' Regulation Bill, in which there was a clause allowing the assistant county surveyors a salary of £120 annually, and superannuation as well, it being then acknowledged that their present salary of £80 was insufficient. Owing to the Government going out of office that Session (although having obtained a second reading without opposition), the bill was not proceeded with. In 1875 the County Surveyors' Superannuation Bill was introduced, in which there was a clause on behalf of the assistant surveyors similar to that in the Marquis of Hartington's bill, but, owing to some cause that cannot be explained, it was struck out, unknown to some of the M.P.'s. Since this time many of the assistant surveyors who were a long time in office have died in poverty, while their superior officers have retired on good pensions. Although from the nature of their duties, and the exposure to hardships they are subject to in the performance of same, the assistant surveyors of Ireland are more likely to become open to the want of superannuation than any other body of public servants in the United Kingdom.

There can be no doubt but that the office and standing of county surveyors' assistants should be raised. They are a class of men who occupy a very responsible and important position; for, no matter what qualifications a county surveyor may possess (and the most inexperienced of them must pass an exceedingly high qualifying examination by the Civil Service Examiners), yet all their engineering knowledge and qualifications go for nothing if there is not a well-educated and reliable man, who lives in touch with the people who carry out the surveyor's designs, to control and direct them, and who is capable of recognising and testing the various materials and workmanship specified, also the correctness of the measurements, positions, levels, &c., as defined or specified by the surveyor, and also possess a practical knowledge of the application of materials for the superficial maintenance of the roadways,—an operation which few appreciate and fewer understand—and such-like works, and which no county surveyor (in addition to his primary duties) could give sufficient attention to. And these men have a claim to be placed above the liability to temptation, which everyone knows is engendered by inadequate pay. And although we would be very far from saying that a mechanic, with his £75 or £80, a-year would not be just as trustworthy a man as any other, nevertheless the assistant's occupation involves an amount of travelling expenses, equal to say (one way or another) £1 a-week, which leaves a very small balance of his salary to live upon, as compared with the man whose work is beside his living place, and who has no need of friendly lifts upon the road, or a bed, if overtaken by bad weather late in the day; whereas the county surveyor's assistant has the money expenses, as well as the wear

and tear of long travelling in all weathers, and most of it when the weather is the worst.

Well, what is now sought, is to place this class of men in a position reasonably above the influence of temptation, and relieve them from the anxiety consequent upon the liability to accidents and broken health—a state which can never be attained by any amount of frugal living on the part of a man circumstanced as above described, and whose mind must be constantly on the strain in order to make the two ends meet, without any end in view to hold on to in the long run.

It is, however, a mistake their assuming the title of "Assistant County Surveyors," as there is no such term used in any of the statutes; the Act designates them "Assistants to County Surveyors," and, as such, they deserve the sympathy and support of every county surveyor, and for such a position their standard, both as to education and pay, ought by all means to be raised.

TREE CULTURE IN EGYPT.

SIR Samuel Baker, in a letter to the *Daily Graphic*, says:—I remember Egypt forty-five years ago when few trees existed, except the date palms; there can be no doubt that the immense improvement of the delta by planting timber trees upon an extensive scale has considerably changed the climate, and has induced moisture where formerly the atmosphere was dry. If the Nile shall be controlled by weirs and all possible areas shall be brought within the reach of water, the planting of valuable timber trees may be carried to an immense extent. The "soont," which is known in India by the name of babool, combines many advantages; it is the best and most durable timber for ship-building. The peculiar-shaped pod of successive discs is one of the most valuable materials for the native tanner; at the same time it is a much-loved food for goats. The foliage is a well-known fodder for camels, goats, and sheep. No other wood can supply an equal quality of fuel, and I have proved by experience upon the White Nile that it falls but little short of coal for heating steam boilers, as it burns with intense flame; at the same time, owing to its resinous nature, the combustion is not too rapid. This tree is peculiarly adapted for the soil and climate of Egypt. It throws an agreeable shade during the parching heat of summer when planted in groves upon the outskirts of villages, which is a blessing to the people in this otherwise treeless country; and, should it be introduced upon an extensive scale, a store of fuel will be established throughout the river's course that will render the Nile steamers independent of Great Britain for their distant supply of coal.

There is another production of great importance, which, although already proved to succeed in Egypt, has been entirely and unaccountably neglected—this is the bamboo. I measured a Japanese variety in the Gezireh Gardens, at Cairo, that was 28 in. in circumference. When we consider the absolute necessity of the bamboo in such industrial countries as China and Japan, and the countless purposes for which this valuable product is used, it is hard to believe that the apathy of Egyptians has ignored a plant which has been so generally accepted as a blessing throughout the oriental world. Among the annual items of agricultural expenditure in Egypt is the cleaning of irrigation canals, as the friable banks dissolve and slip into the bed; were the bamboos planted in rows upon the margin, their roots would quickly solidify, and support the sides of the otherwise treacherous material; at the same time a profit would be obtained from the sale of bamboos for poles for the myriads of vessels upon the river (which are now supplied from Trieste), for rafters for native huts, for fuel, and for a thousand other purposes.

ESSENTIALS OF HOUSE SANITATION—HOW TO SECURE THEM.*

THE subject of the evening, said Mr. Gray, might be expressed by the one word, "Cleanliness," and, as this might be too concentrated a form of expression for a text, he would amplify it a little, and state that the essentials of House Sanitation consisted in "The immediate and thorough removal of all waste products."

He would consider this proposition with special reference to three points, A, B, and C, suggested by the following anecdote: An Irishman had a very defective grate, which, like too many others, wasted the fuel, and gave little heat. After considerable hesitation, he yielded to advice, and went to a tradesman to get a new grate. The tradesman, dilating on the qualities of his wares, very strongly recommended one grate in particular, because, as he said, "It would save half the coal." "If that's the case," said Pat, "I'll just take two of them and save the whole of it."

Here we have an illustration of what generally takes place with the public, in dealing with sanitary matters. In the first stage, the public are very apathetic and hard to move; in the second stage, when they stir, they fall under the influence of business push, and are perplexed by the multiplicity of suggestions from engineers, doctors, and manufacturers. In the next or third stage they need the sole guidance of common sense. We should, therefore, consider the matter with special reference to the three points—A, Apathy; B, Business; and C, Common Sense.

This sanitary question is not a purely moral one, and yet it is one that involves very serious moral responsibility.

The health of body and mind—that is, our physical and moral well-being—is powerfully influenced by our surroundings. "Cleanliness," said the Preacher, "is next to Godliness." If so, the development and maintenance of religion and morality, as well as the personal comfort of every individual, depends in some degree upon the cleanliness of our persons, habits, and dwellings, we may take for granted that physical impurity is the emblem, if not the sign, of moral impurity, hence the importance of sanitary reform, from a moral point of view. Clearly it is every individual's duty not only to try and preserve his own health, but he should take care that by his person or habits he is not the cause of disease to others. This being our double duty, we should at once look to the sanitary condition of our dwellings. We are too careless on this point, because our daily observation proves that there are hundreds of cases exposed to obviously unsanitary conditions, and no evil effect seems to follow; the connection between a particular case of disease and a defective sewer cannot always be traced to the satisfaction of the ordinary observer. This is so. Nevertheless, we should remember that germs are not always matured at the spot on which they were generated. For example, the thistle-down originated on one farm may be matured into plant and flower in a distant townland; and the fern-spore shed in the moist and shady valley finds a lodgment, and develops into feathery fronds in the crags of the mountains. So also with the germs of disease; they may be nursed into being in the close alley or filthy court, but they may bring forth their deadly fruit in the luxurious chamber of the suburban villa. The owner of the villa and the lodger in the alley therefore are each dependent one upon the other, and are equally bound to further every effort made for the promotion of sanitary reform.

In a large manufacturing city like Belfast, where there are miles of streets composed of the houses of the working classes, it was of the utmost importance that we should look to the sanitary condition of our workers' dwellings. Belfast was not so badly off in

that respect as many other towns, but yet much remained to be done towards removing the defects left them as a legacy from the past. Had the founders of Belfast settled about the skirts of MacArt's Fort, as the old Danish founders of Dublin settled around the Celtic fort on which now stands the Castle, our Borough Engineer would not have so much difficulty with the city drainage, and our Medical Superintendent of Health would not be so anxious about the high death-rate. The residents cannot now remove to the Cave Hill, but they can do much effective work towards removing other defects left them from the past. Fortunately their workers are fairly provided with self-contained houses, unlike many of the houses in Dublin, where several families dwell in one house—Mr. Gray had heard it said that in some cases several families occupy one room. In one such case the members of the little community got on very well, until one of the families began to take in lodgers. Fortunately there was none of this in Belfast; every family could have a separate house, imperfect as it may be in many respects. He had visited many of the workers' houses, and had been shocked at the deplorable condition of the surroundings, due, not only to structural defects, but to the apathy and downright carelessness of the inhabitants. This is our point A—Apathy, for which there is no excuse. Every householder should protest against every form of structural defect, and aid the authorities in getting them remedied.

Let us examine the structural defects, and they come directly under point B—Business. The speculating builder, who, with a false economy, fails to provide the necessary appliances for keeping their tenants' houses reasonably clean or healthy. One serious defect was the manner in which the bell-trap and cesspool below it were constructed. Most of the yards were nominally trapped by this exploded contrivance. Mr. Gray said "nominally," because the so-called yard trap is but a trap in a very equivocal sense. It does not trap off the foul air, but it entraps the poor worker into the idea that it does. They would find that the yard trap was a loose metal contrivance that collects all kind of filth in and about it, thereby failing in one elementary principle, namely, "the thorough removal of filth." Lift it out of its timber frame, and they would find a filthy receptacle below it, and, above all, they would find that the open mouth of the town sewer is belching its foul and poisonous breath, to blanch the cheek, check the vigour, and destroy the health of the humble householder. A contrivance of this kind was in direct violation of the elementary laws of sanitary science, for it not only created a mischievous local pollution, but it freely admitted the town sewer gas. Where this was so, Mr. Gray would strongly recommend the tenant to call upon his landlord to remove the abomination, and to substitute a glazed earthenware trapped gully, properly connected with the town sewer, so that at all events from that point there need be no fear of sewer gas. Another defect was the badly-paved yard, a surface broken and irregular, and saturated with accumulated filth. Every yard surface should be solid and impervious to fluids, and the even surface should have a quick fall to the trapped gully, with no corners, or hollows, or other catchments for filth, so that a bucket of water could wash the surface with an "immediate and thorough" discharge.

Mr. Gray then pronounced his strongest condemnation of another structural defect—the common open privy. In the country, where the free air of heaven scatters the foul air and counteracts the influence of the unhealthy and deadly vapours, the common privy might be tolerated, but in towns like Belfast, where dwellings are crowded into narrow spaces, it is wrong for the health authorities of the town to allow the continued use of the common open privy, where animal and vegetable refuse create the most deadly forms of disease. It is almost criminal for any tenant in Belfast to occupy a dwelling

that has not a properly trapped closet, with a good water flush. Manufacturers have produced a variety of cheap and effective closets that leave builders of small houses property without excuse, and yet there are hundreds of small houses in Belfast that have no other convenience besides a common open privy, producing the most offensive sight and smell. The only excuse offered for this serious defect is, that owners of small house property find that their tenants misuse or woefully destroy any breakable apparatus provided. For this neglect or damage there surely should be a remedy.

Attached to the privy, there is the no less dangerous open cesspool or dust-heap, exposed alike to sunshine and to rain, as if intentionally to facilitate the decomposition of the filthy compound, and to generate the microbes that find rest and culture on the top and surface of the badly-built yard walls, saturated with wet and disintegrated by frost. The danger from this source begins when the refuse is allowed to remain beyond a week; and yet it is often allowed to remain not only for weeks, but for months. We have seen rows of such houses, back to back, with a common passage between them; and this passage, instead of being a clear place by which the refuse from the yard is regularly removed, is itself the common receiving-place for all kinds of impurity, from the over-filled manure pits of the several neighbouring houses. Here we have frequently looked upon broken crockery and old clothes, dead cats and cabbage stumps, bones and bottles, chimney sweepings and discarded headgear, old shoes, boots, and brickbats, and, over all, careering before the wind the loose chaff just discharged from a used-up bedtick, on which, perhaps, some poor invalid had recently died of an infectious disease. Let any ordinary observer examine for himself the several items described, and he will have no difficulty in coming to the conclusion that the present state of large numbers of our workers' dwellings must be injurious to health, and that, as a rule, no proper provision is made for the personal comfort of the inmates, and that, therefore, no encouragement is given to those who desire to be neat and cleanly in their habits. It was essential that every working man should have a water-closet, a trapped gully in the yard, and a movable receptacle for refuse, in addition to a separate water supply for domestic purposes. All solid refuse that is not removable by the drains should be deposited in a movable receptacle, to await the dustman's collecting cart.

Let us now inquire, is it possible to have all the defects referred to altered? And, if so, what is the remedy? At the outset, take for our encouragement the opinion of Arthur Cohen, Q.C., M.P., who states:—"So far as the structure and condition of the houses of our poor are concerned, the evils which have been described in language so powerful and graphic, and which undoubtedly exist, might all be removed by the exercise of legislative provisions which at this moment are contained in the statute-book. Indeed, it is extremely difficult, if it is possible, to detect a single blot in the social condition—so far as their dwellings are concerned—of our poor, for which there does not now exist a statutory remedy."

We have here a distinct reference to the sanitary acts, which provide for the removal of everything—structural or otherwise—that may be injurious to health. This reference involves the duty of the landlord, the tenant, and the sanitary authority respectively. The landlord or "owner" is defined as the person who receives the rent for the time being, whether on his own account, or as agent or trustee for any other person. The tenant is, of course, the immediate occupier. The sanitary authority is the City Council acting through its sanitary department, which "is responsible for providing that all drains, water-closets, sinks, lavatories, gully-traps, earth-closets, privies, ashpits, and cesspools within their district, be constructed, trapped,

* By Mr. William Gray, C.E., M.R.I.A. Read at Belfast Natural History and Philosophical Society, on 9th ult.

covered, ventilated, and kept so as not to be a nuisance or injurious to health." (See a Digest of the Public Health Act, 1879, by W. D. Wodsworth, Assistant Secretary Local Government Board.)

The local authorities are bound to see that the premises are properly constructed as dwellings, and therefore they have to deal with the landlord or owner; and they must also see that the premises are kept in a proper sanitary condition, and therefore they have to deal with the occupier or tenant. Unfortunately, the apathy of the landlord and the carelessness of the tenant presented serious difficulties to the carrying out of the law.

Mr. Gray said he had the greatest satisfaction in referring to the great improvement which has taken place in the health of the city, and this is due in great part to the untiring energy on behalf of the people's comfort and happiness, which has been, and is now being, exercised by the Corporation of Belfast. The Sanitary or Health Department is under the management of the Sanitary Committee. The Medical Superintendent and Executive Sanitary Officer merit all praise for their zeal, courtesy, and forbearance under very trying difficulties. The manner in which the duties of this important department is carried out is creditable to the public officers, and it is the duty of all right-minded citizens to do all in their power to assist the officers of health in their laborious and responsible duties.

In dealing with this matter, Mr. Gray said he should not omit to refer to the very excellent rules of the Belfast Town Council, with reference to that and all other classes of buildings, and he thought he might safely affirm that if the rules drawn up by the Council were honestly carried out, the result must be a substantial improvement in the general health of the city, for under them no dwelling need be in an unsanitary condition for the future. The greatest difficulty will be in dealing with the older houses, badly built at first, and now "run down" in condition as to render their proper repair unremunerative; but no tenant need suffer, for all reasonable complaints will be promptly attended to by the sanitary officers of the City Council.

Another very great difficulty is in dealing with the careless and slovenly habits of too many of the families of the working classes, no doubt due in a great measure to the training, or want of training, in our ordinary National Schools, and to the very questionable sanitary arrangements with which they are provided.

It is a national disgrace that the great majority of our National Schools are unprovided with yards or offices of any kind; and, where they are provided, they are most commonly of the very rudest description—filthy, dark, and small,—unless in vested schools, built under Crown grants, of which there are too few. No wonder that the children of our working classes are brought up with degraded notions of personal decency, or the value of cleanly habits; and when they come to be heads of families or servants in private houses, they think so little about their sanitary surroundings, or the duty that devolves upon them to aid the public authorities in providing for their health, comfort, and happiness. The value of improved artisans' dwellings properly cared for, has been proved to have the best results on the health of the places where they are provided.

The improvement made in artisans' dwellings in London and elsewhere helped very materially to reduce the death-rate. In 1881, when the city death-rate was 21·2 per 1,000, the death-rate in the workers' dwellings erected by the Peabody Trust was 17·2. The rate in the buildings of the London Improved Industrial Dwellings Company was 16·4; and in the dwellings of the Metropolitan Association, 14·3. In Newcastle, when the death-rate was 22·2 per 1,000, the rate in the improved industrial dwellings was only 12 per 1,000. Such buildings can

be provided under the Housing of the Working Classes Act, 1890, under the provisions of which any individual or company can obtain financial aid from the Government, for the purpose of facilitating the erection of suitable dwellings.

It would be a very serious mistake to think that the dwellings of "the better classes" were "better" than the dwellings of the working classes from a sanitary point of view—not at all. Many, very many of our superior dwellings, in which all is bright with tinsel and varnish, there are as defective sanitary arrangements as elsewhere, and it is as incumbent upon the tenants of such houses to see to their sanitary surroundings as in any of the dwellings of the poor; and yet such tenants are as apathetic as their poorer brethren in looking to the sanitary arrangements of their dwellings, and, therefore, all that has been said with reference to the smaller houses, applies with equal force to the houses of our middle and upper classes. It cannot be too strongly impressed upon householders, rich and poor, the fact that their personal health, the health of their families, and consequently the health of the community at large, depends upon the care taken by each individual to secure the proper sanitary condition of his own dwelling. And any householder who does not see to and understand the sanitary arrangements of his own house, may rest assured that such arrangements are defective and dangerous. All that is essential for the sanitary condition of any dwelling is so simple, that the arrangements can and should be understood by every householder.

Mr. Gray then described in detail the principles of his text, and their application to the dwelling.

If effective sanitation required the "immediate and thorough removal of all refuse matter," it is quite clear that all receptacles of such matter should be placed as near the outer air—that is, the outer wall—as possible, so that the channel liable to breed pollution should be as short as possible. The closet and the bath and the scullery slop should be next the outer wall, and discharge directly through the wall into the open air. If this is done, the plumber's work is made easy, and without complication. Do not have the discharge end of the bath turned from the wall, with a waste running its entire length under it. Let the closet discharge directly through the wall, and not by complicated bends from an inner wall. The same may be said of the scullery waste. Further, that the discharge may be thorough, let the outlet be ample.

Mr. Gray described the ordinary defective methods of discharging slops and baths through limited apertures, recommending a much more open vent, so as to secure a scour for the outlet drains, &c. He exhibited and described a special form of waste made to his instructions, which gave such a good flush as to discharge the waste quickly, and carry away all soap, and prevent its lodgment in the pipes. This brass plug gave a full bore flush, and yet by a movable cage checked the inlet of solids and gave access to the trap. The same arrangement was applicable to other forms of slop wastes. He described the best methods of immediately and thoroughly removing the contents of closets, and recommended for this purpose a simple form of wash-out closet, the details of which he fully described, dwelling chiefly upon the points most essential for the effective working of the apparatus. He strongly condemned the old pan closet, which could not be free from local pollution, and warned householders against the push of interested manufacturers who recommended costly apparatus that involved no essential principle that was not fully met by a much more simple form of closet; and the more direct its discharge was, the better. We have still a survival of the old system in the downward bend from even otherwise good closets. The discharge should not be downward within the house, involving further bends. The discharge should be through the wall direct,

and if possible above the floor line, and accessible, the pan to have a good 3-gallon flush. The full flush secured the "immediate" as well as the "thorough" removal into the open air.

Having shown how the liquid and other refuse should be "immediately" and "thoroughly" passed into the open air, he traced its further passage into the town sewer through a trapped air chamber. This trapped air chamber was absolutely essential, and must not be dispensed with upon any account. This was very fully described and illustrated by diagrams and models, many of the latter showing the unnecessary complication before the public, and the necessity for exercising common sense in their selection,—above all, to see that the air chamber was freely open, and that the trap was accessible. This air chamber, trapped at the town side, should, if possible, be the receptacle for the soil pipe and waste from scullery and bath, so that the water in the trap would be kept changed, and not allowed to become stagnant. With this arrangement there was very little fear of sewer gas. There may be bad effects from the local pollution which carelessness may allow to occur at the house side of the disconnecting air chamber, but no sewer gas could return. This is absolutely essential, but will not be a protection from carelessness or the want of supervision.

Referring to the various complicated devices adopted with the view of ventilating the soil pipe, Mr. Gray expressed the opinion that far too much was made of it. It was the survival of the old closed-up system, when the sewer gas had direct access to the soil pipe; but now no such gas can get to the soil pipe by a disconnecting trapped air chamber. The only pollution now possible in the soil pipe was the local removable pollution of the soil pipe itself. Mr. Gray said that the legitimate outcome of our present system of trapping and rendering accessible all apparatus, pointed to the possibility and the desirability of making our soil pipes removable, and accessible for cleansing directly, thereby avoiding the costly and unsightly vents, so strongly recommended under our point, B.

In dealing with this matter of sewer gas, Mr. Gray said it was strange that we should go to so much trouble to trap off every possible whiff, and adopt costly and awkward-looking contrivances to ventilate the limited soil surface of our soil pipes, in which there is no sewer gas, and yet we freely admit the sewer gas itself into our public streets. We trap our side gullies, and for this purpose adopt costly apparatus at each side of our thoroughfares, and yet we carefully place in the centre of our tramway lines, open ventilators that belch forth the blasting and deadly sewer gas without let or hindrance. Something must be seriously wrong with such an arrangement! Surely, if it is so necessary for us to trap off our house drains, it is equally desirable to adopt some system by which our main sewers may be ventilated, so as not to poison and pollute the atmosphere of our public thoroughfares?

Before they can say that their drainage was passed safely beyond their premises, they must see that the drains carry without leaking, and that the ground itself is not saturated by drainage from their own drain or any other source. Mr. Gray described the necessity of having a solid bed for the reception of drains, the method of making drain joints, and of forming an impermeable surface below the dwellings; and strongly recommended that all drains should be accessible and under the control of the householder, who should make himself familiar with all the drainage arrangements of his premises, and see that they were kept in an efficient and cleanly manner. No amount of apparatus will make up for the want of intelligent supervision or common sense. He was glad to see that the ventilation of our main drains had been taken up by the Town Council, and was referred to in the highly-important and valuable report just issued by their excellent local medical sanitary officer. They had all more or less

benefited by the very excellent show room of the gas department of the City Council. It would be an advantage to the cause of sanitary reformation if the very excellent and zealous officer of the sanitary department would follow the example shown them by Mr. Stelfox, Engineer of the Gas Works, and get together a showroom or exhibition of sanitary apparatus, so that the citizens might see for themselves the fittings and apparatus most approved by the authorities. In addition to this, the medical officer should keep on exhibition, for each month or quarter, an skeleton map of the city, showing the localities where disease prevails. In suggesting such a map, he did not mean anything more significant than that it should show the main outline of this city without details, so that the cause of disease could be more readily localised. Everything that pertained to health should be exhibited, and every facility given to the ratepayers to see what was being done in a sanitary way.

The lecture was illustrated with diagrams, models, and experiments, and a prolonged and most interesting discussion followed.

NEW HOUSE, WOKING, SURREY.

Our illustration represents a small Cottage Villa, lately completed at Woking, from designs of W. I. Chambers, architect. It stands on an elevated platform, named Mount Hermon, and is built of red bricks, and covered with Broseley tiles. It cost £900; and, although of very simple design, is a class of house much sought after in this neighbourhood, and was disposed of, immediately on completion, at a good profit. The workmanship reflects much credit on the contractor, Mr. E. Seaber, of Godalming.

ORIGIN OF THE CELTS.

(Continued from page 64.)

THE learned Michaelis has been assisted by Schloetzer in the enquiry, as to whether or not Magog and Gomer are the tribes of Massagetai and Kimmerioi, or Visigoths and Cimbri. Probably, it has been asserted, that under Darius Hystaspes, these two tribes, the progenitors of Saxon and Welsh population, were already contiguous, but distinct inhabitants of Japhet, which is rendered of Natolia or Europe.¹ However, the earliest known wave of population, which flowed out of Asia into Europe, was the Gaelic. Accordingly, the descendants of those who spoke that tongue inhabit the westernmost points, having being pressed by the next Cimbrico wave into extreme situations. Thirdly, comes the Gothic wave, of which the Saxons form a part. Each of these waves of people overflooded in turn the whole middle zone of Europe.

To Ptolemy, of Alexandria, is ascribed the first mention of the Saxons. Herodotus, in Thalia and elsewhere, alludes to the Sakai, as residing near the Caspian Sea. These people are included in the Scythian or Gothic swarm, and they proceeded continually westwards with the Massagetai, or Visigoths, of whom they seem to have been a subdivision. It is highly probable, that those Sakai are the original Saxons. In this case, there is a vast mass of ancient history about them before the time of Ptolemy. They waged war with Cyrus; they plundered in Syria the temples of Anaitis, and were probably a part of the army, whose defeat at Hamonah, Ezekiel commemorates. Procopius has various statements regarding the ancient inhabitants of Great Britain.

¹ Michaelis has endeavoured to show that the tenth chapter of Genesis contains geography in the form of genealogy. As we learn from Ferishta, this is a very usual form in the east.

Already the Saxons had acquired a certain degree of civilization, with a prowess in military tactics and discipline, before they had landed on the shores of Britain; yet, their early monuments appear to have been rude in design and execution. Reysler has ably pleaded the claim of the Saxons² to the construction of Stonehenge. Various controversies respecting this monument should deserve some critical animadversion. The early excellence of the Saxons in navigation was very noteworthy. They could sail so near the wind as to surprise the Mediterranean navigators.³

Some idea of English colonisation may be formed from an attentive study of early migration. Nations must be classed, while they are roving tribes, by their language. That of the Saxons is a Gothic dialect. That of the Cimbri is Welsh. Instead of distinguishing between these nations, Sharon Turner altogether confounds them. He actually talks of the English Cimbric ancestors,⁴ who are the Welsh, when he means the Saxons.

Every successive investigation tends more and more to show, that, from the Cimbric and Celtic nations, the Goths have had to learn everything. Navigation, heraldry, the architecture we call Gothic, chivalry, rhyme, romance, writing itself, were learned in the two Armoricas of the Phœnicians, and thence distributed eastward among the northern savages.⁵ So Christianity came to the Saxons from Gaelic missionaries, and those civilizing influences which followed in its train. It seems a very difficult subject for investigation, to obtain correct ideas at this time regarding the prevalence of those peculiar Pagan systems and rites which predominated in England, after the Anglo-Saxons had there obtained a firm footing.

Already Christianity had spread considerably over Ireland before the Anglo-Saxons and Jutes entered England in the year 449, under Hengist and Horsa, their leaders. The early history of those people is obscure, but we know them to have been ignorant of letters and learning, being chiefly addicted to the pursuits of war, when not engaged in the avocations of tillage, herding, and fishing.

The Saxon King of Northumbria, Oswald, had been instructed and baptised by Irish missionaries. But, his predecessor and kinsman Penda, King of Mercia, had subverted every trophy of the gospel in his dominion. Oswald induced St. Aidan, an Irishman, and a number of monks, to found a monastery at Lindisfarne. In order to restore the faith, the pious king sent to Iona for clergy to evangelize his people. He acted as their interpreter, for the Saxon differed much from the Celtic dialects. Of this band, Aidan was the chief. From his See in Lindisfarne, the Irish missionary guided all the movements of his mission. His diocese extended so far as Scotland, and it embraced that of York, which did not gain its archiepiscopal rank till A.D. 735. After an episcopate of seventeen years, in 651, Aidan died. His successor was an Irishman and named St. Finan, who lived to see religion everywhere established in the northern parts of Britain. He died in 662, having been in turn succeeded by a country-

man of his own, St. Colman. The latter was a zealous stickler for the Scottish rite, in opposition to St. Wilfrid, who sought to introduce the Roman practices for the celebration of Easter. However, Colman gained the esteem of his community, owing to the fidelity with which he exercised stewardship over the flock of Christ. Finding the tide of opposition to the Irish usages more powerful than he could hope to withstand, resigning the See of Lindisfarne, St. Colman departed from England, taking all the Irish and about thirty English monks belonging to his establishment. He retired to the remote island of Innisbofin, or the "Island of the White Cow," which lay off the western coast of Ireland. There, he founded a monastery for his Irish followers. He built another for the English, on the plain of Mayo. On that account, for a long time, the place was known as "Mayo of the Saxons." St. Colman resided in Innisbofin until his death, which occurred about the year 676.

That friendly intercourse, which began very early in the fifth, between the Cambro-British and Irish ecclesiastics, was continued until the close of the tenth century, as we find it stated by the international Annals.⁶

It is very difficult to decide, whether the Belgæ were a Cimbric or a Gothic tribe. It seems impossible to account for the national diffusion of a Gothic dialect, without supposing that the Belgæ were Goths.⁷ The Caledonian, the Pictish, and other tribes who first settled in the north, are thought to have supplied the mass of inland English population.

THE LABOUR COMMISSION AND THE BUILDING TRADES.

THE Textile and Building Trades' Section of the Labour Commission met on the 16th ult., Mr. Mundella presiding, when Mr. D. B. Macgregor, secretary of the Master Masons' Association, Glasgow, said that that association was formed in 1861, embraced forty-three firms within a radius of four miles of Glasgow, and employed 3,000 masons. Once in each year the employers met representatives of the men to discuss matters relating to work and wages. At this meeting the rate of wages, the hours of labour, &c., for the ensuing year were agreed upon. This plan had been in operation since 1884, and had worked without any friction, the result being that there had been no serious disputes.

Mr. F. Moore, speaking on behalf of the building trades of England, said, in reply to the chairman, that he was a non-unionist, was not a representative of any society, and spoke only for himself, and expressed his own opinions only. He was by trade carpenter, but of late had been a builder's managing foreman, employed in the London district. He considered that the system of overtime was one of the deadly evils of the building trade. No doubt the men were paid extra money for the overtime, but he thought the system ought to be abolished, as it was opposed to the welfare of the workers. He also complained of the system of sweating and driving that prevailed in the building trade. Employers engaged a foreman not for his superior acquaintance with his trade or his ability or knowledge, but solely for his capacity for driving and bullying the men under him and for getting out of them the greatest quantity. He also complained of the bad sanitary condition of many of the workshops and offices, and the total want of inspection. He considered that the position of the skilled workman in the building trade was not at all satisfactory; for instance, the cleverest workman was exactly on the same terms as regarded pay as the inefficient workman in the shop; there was a dead level of mediocrity, because the sharp or clever workman was not encouraged to make the most of his superior ability. To a certain extent the action of the trades' unions had tended to improve the position of the men and to ameliorate the conditions under which they worked, but there were isolated workshops where the abuses existed without check.

² See "Antiquitates Septentrionales," p. 233.

³ Claudian writes:—

"Ne littore tuto

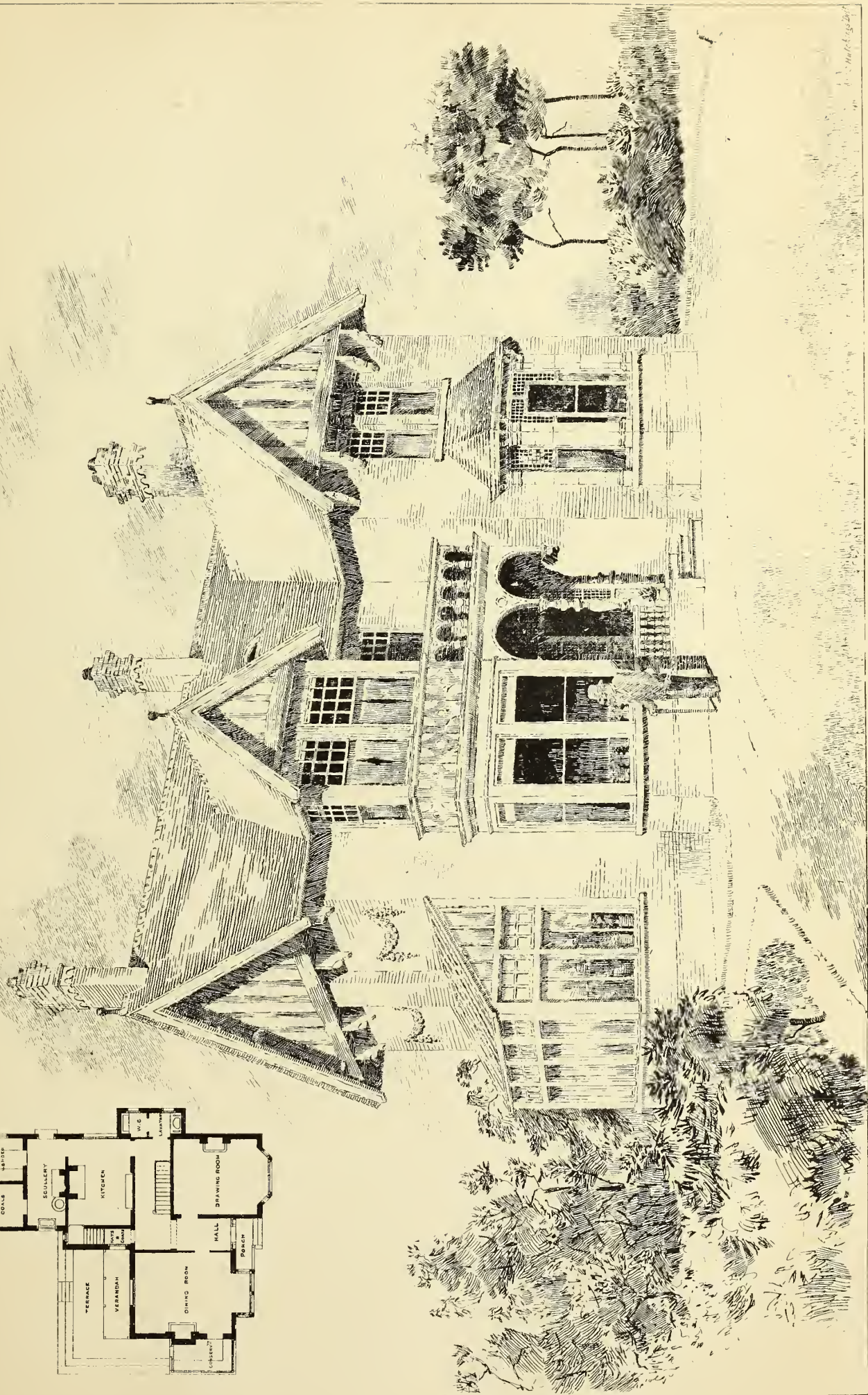
Prospecterem dubilis venturum Saxona ventis."

⁴ He tells us that English laws, government, and language betray a Cimbric origin.

⁵ Adequate use has not been made by English historians of those voluminous antiquarian collections, which, at the expense of the curious and patriotic Suhm, have been printed in Denmark. These comprehend many sagas that illustrate British history, and many documents that throw light on the manners, literature, and legislation of all the Gothic nations.

⁶ Thus, the "Annales Cambriæ," at 565, record the Navigatio Gildæ in Hibernia. In 811, the "Chronicon Scotorum" records the arrival of "the Céle Dé, who came over the sea from the south, dry-footed, without a boat." The "Brut y Tywysogion," in the Myvyrian Archæology, vol. ii., p. 482, records that in 883, Cydyvor, Abbot of Llanveithin, sent six wise men of his college to instruct the natives of Ireland. In 920, "Ménach, a Céle Dé, came across the sea from the west to make the laws of Erin." In 946, "the Céle Dé was wont to come across the sea from the south to instruct the Gaedhél."

⁷ Such is the opinion of Pinkerton.



THE NEW HOUSE, WOKING, SURREY.

W. L. CHAMBERS, ARCHT.

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Although he was a non-unionist, he admitted that were it not for the trades' unions the evils he complained of would be far more prevalent than they were. He believed in arbitration for the settlement of trade disputes, but the employers and employed in London did not seem to be in touch with each other or to be able to act harmoniously. He had heard last witness's description of the state of things that existed in Glasgow with respect to the settlement of wages questions, &c., and he considered it an admirable arrangement and one that he should be delighted to see adopted in London. Speaking generally, he wished to see the status of the workman in this country improved; as compared with the workman in America the position of the English workman was certainly one of inferiority in the social scale. The witness also expressed himself in favour of the establishment by law of boards of arbitration for the settlement of all disputes between employers and employed. In answer to Mr. Livesey, witness said he was in favour of paying workmen according to their ability, but he was not in favour of a universal system of piecework.

Mr. W. Phillips, of the London and Counties House Painters' Society, said that the Society had sought to establish a minimum rate of wages of 8½d. an hour, and that was the rate recognised by the society. Lower rates, from 7½d. to 8d., were sometimes paid, but were not recognised by the society. He could not say what proportion of the men were paid at the rate of 8½d. The society was a trade union pure and simple, and its funds were used for no other purpose than the promotion of trade objects. The contribution of members was 2d. per week. He wished to urge the necessity of some legislation to prevent the scamping of work and the employment of unskilled labourers in the carrying out of skilled work. He thought the direction in which this could be done was by the appointment of skilled inspectors, whose duty it should be to see that the work was properly done, and he considered that the duty of arranging for this inspection was one that should be undertaken by the legislature. As to the relations of the employers and employed he held that any attempt on the part of an employer to boycott a unionist or to prevent a man from joining a trades union should be regarded as a penal offence; and in the same way it should be a penal offence for a unionist to attempt to force a non-unionist to join a union. As to the hours of labour, he was in favour of a law being passed establishing a maximum eight hours day, and forbidding overtime unless it could be shown to the satisfaction of a committee of employers and employed that owing to the state of employment, it was desirable that longer hours should be worked. He also thought that Government, municipal, parochial, and public works generally should be held over until the slack time, so that all workmen should as far as possible have a share of the employment. He considered this was preferable to the State having to maintain a proportion of the workpeople as paupers.

Mr. T. Anderton, president of the Operative Plumbers' Association of Great Britain and Ireland, of Liverpool, said that his association had a membership of 5,500. The contribution of members was now 9d. per week, and for this the members had the benefit of a sick fund, a travelling fund, a funeral fund, an accident fund, and a superannuation fund. The funds in hand amounted at the present time to £2,400. He did not consider this was sufficient, and that was the reason why there had recently been an advance of 1d. per week in the contribution. Since 1889 there had been some eleven disputes in the trade, most of which had been settled by arbitration under the rules of the association, which provided for such cases, and only two or three of the disputes ended in a strike. Since 1865 the association had spent on trade disputes over £13,000; of this there had been spent during the last two years only £132. Since 1865 £22,240 had been spent in sick, funeral, accident, &c., allowances. There was now very little friction between employers and employed; this arose partly from the adoption of arbitration, but partly also from the fact that most of the employers had been working plumbers themselves. They did not want any legislative influence either as to arbitration or as to fixing the hours of labour. He would like to see a more complete system of the registration of plumbers, but the demand for that should be made by the public. He should also be glad something could be done to abolish scamping and inferior work, which in the case of plumbers was a danger to the public health. The bill for the registration of plumbers at present before Parliament was good so far as it went, but it ought to provide for a stricter examination of plumbers, to test their fitness and capacity.

Mr. G. Sunley, general secretary of the National Society of Operative House and Ship Painters, said that the headquarters of his society were at

Manchester, and the area of the society's operations extended over Lancashire, Yorkshire, and the North of England, but did not touch London or the south. The society started in 1886 with 25 branches and 1,305 members; it now included 67 branches and 4,100 members. The annual income was £5,010, and the funds in hand amounted to £6,086. The weekly contributions of members were 4d., 6d., and 8d. per week, according to the benefits secured. All the members of the society were skilled workmen. The wages varied from 6d. to 8d. per hour, according to the district. In Manchester the rate was 7½d. per hour as a minimum. There was nothing to prevent an employer paying a higher rate to the more skilled and capable men; the society not only did not object, they liked this to be done, and there were men in Manchester who were paid 1s. and 1s. 3d. per hour. There was a system of arbitration for the settlement of wages disputes which varied according to the towns. In each town there was a code of working rules which was signed by employers and employed, and in most cases these rules provided for arbitration in cases of dispute. This system had worked very satisfactorily, and there had been very few strikes or lockouts in the trade since 1886, and those had been of very small importance, and had cost the funds of the society very little. Asked as to the comparative skill of unionists and non-unionists, his experience was that the unionists were the better workmen; that was speaking generally. Of course, there were good men among the non-unionists. — Asked as to what suggestions he had to make as to changes in the law, witness said that he wished to see the Employers Liability Act altered so as to prevent employers shifting the responsibility upon the shoulders of the insurance.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 70.)

Soon afterwards the Irish army marched to Reban in the County of Kildare, and there Captain Flower was summoned to surrender his post, and he yielded to Sir Phelim O'Neill, General of the Horse. Next the Irish advanced upon Athy, then held by Captain Weldon, who was also summoned, and the town was yielded. Grange Mellon also surrendered to the Ulster army. At Athy, Owen Roe O'Neill impatiently expected the arrival of General Preston, in order to march upon Dublin; and, in the meantime, he was busied in building ovens and arranging to have a depot of provisions there, to aid the united forces. Preston had been required to reduce the English garrison in Carlow, and three weeks had elapsed before his army joined that of the Ulster general.

Finding the Supreme Council at Kilkenny in no good disposition to support his army in the northern counties of Leinster, towards the end of 1647, Owen Roe resolved to march with his troops to Maryborough, as he distrusted their intentions towards him. The Supreme Council sent him a message to appear before the Assembly, for the transaction of some important business; but he answered, that military responsibilities altogether prevented his doing so, while if his sense or opinion was desired on any public or private business, he had an attorney in court to communicate it. Three several agents were sent to him, but to these he returned the same answer, as he believed a plot had been designed to deprive him of his command and to imprison him, as the Ormond influence was then strong in the Assembly.

The Council, at a loss to know how O'Neill could be brought to compliance, at length resolved on sending the French agent, Monsieur Mollin, to Maryborough. The latter recited the various charges made against the General by the Supreme Council; but O'Neill was able to show him the absurd, contradictory, and unaccountable orders that had been given to him, and which were manifestly prejudicial to the cause he had espoused. The French agent, on learning the true facts of the case, by the sight and perusal of their orders, suspected the integrity and loyalty of the Council, while he declared they were no better than treacherous knaves. He then promised faithfully to join with the General for a redress of his grievances, and the latter promised within two days to see him in Kilkenny.

On returning thither, the French agent gave a full account of his interview to the Assembly, who wondered at the foolish or suspected acts of the Supreme Council, and he advised them to plead ignorance of what had been done, as also to offer the General an apology and satisfaction for the affront and injury sought to be inflicted on him. According to promise, O'Neill appeared, and entered Kilkenny, at the head of 100 horse, when he was saluted with public and private courtesies. He appeared before the Assembly, and showed the Assembly all the letters he had received from the Council, with copies of his letters to them, as also stating the action taken in consequence. Whereupon, the Assembly, convinced of their mistake and groundless belief in regard to so meritorious a man, asked his pardon, and offered him satisfaction by approving his conduct.

The General then proposed to both the Assembly and the Council, that he should be allowed to move his army in a body to Naas and Harristown for their winter quarters, promising to prevent any enemy from Dublin, or its outlying posts, from appearing in the open field. Should such a position be neglected, he warned them that the Dublin garrison should be able at any moment to range abroad over the counties of Wicklow and Kildare, and even to the Irish quarters, so that they could take the corn gathered and garrisons already provisioned. But this reasonable plan was rejected, it being predetermined to scatter the Ulster army, as too formidable to the Council. He then moved, that New Ross, Leighlin Bridge, Carlow, and Athy, be assigned as head garrison, and that his army be so distributed as to guard them upon any occasion. From the same motive this proposition was rejected. He then asked, if they would allow his army to winter in the County of Cork, he undertaking to confine the enemy there to his garrisons, and to supply his men with provisions. He also undertook, that he should not trench on the means of support for the Munster army, and to pay in current coin for all necessaries required. This request displeased Muskerry, and it was refused. In fine, he besought them to allow his own proper regiment to have their quarters in Athy, and to have so much of his army in support and in readiness, as should prevent any attempt of the enemy to surprise him during the winter months. But all his overtures and sound advice were rejected; and it was resolved to divide his army, which was even moved in detachments to very distant and scattered stations.¹

Nor was this the only mortification the Ulster General had to bear in the City of Kilkenny, for the faction opposed to him contrived to excite a popular tumult against himself and his great friend in the Assembly, the Bishop of Clogher. The latter was obliged to assume a disguise, so that he might not be mobbed in the streets, while O'Neill in like manner left the city privately and retired to Reban Castle in the County of Kildare. Faction then governed the proceedings of the Confederates, and soon it proved ruinous to their cause. Besides, King Charles I. was now a prisoner in England,² while this created more confusion in their councils and among their members.

In his cantonments at Reban and in Leix, O'Neill had only three of his regiments to guard a very exposed country; but he was extremely vigilant there during the close of 1647 and the Lent of 1648. Several times he had skirmishes with parties of the enemy in the County of Kildare. Meantime, the Confederates were divided in their councils, and foreign intervention was sought to provide a protectorate for the kingdom.³

(To be continued.)

¹ See "A Contemporary History of Affairs in Ireland from 1641 to 1652," edited by John T. Gilbert, vol. i., part i. "Aphorismal Discovery of Treasonable Faction," Book ii., chap. xxvi., pp. 167 to 170.

² See the account of his reverses as set forth in Rev. Dr. Lingard's "History of England," vol. x., chap. iv.

³ See Rev. Charles P. Meahan's "Confederation of Kilkenny," chap. ix.

ICELAND.*

ICELAND is an island about the size of Ireland, situated just outside the Arctic circle. The inhabited, or habitable, portion is confined to a narrow belt round the shore, the centre portion being occupied by volcanic mountains, lava, extensive deserts, sandy plains, and snow mountains mostly flat-topped, called "Jokuls." The interior is traversed by a few desert tracks, seldom used, and becoming less so since the establishment of a regular service of steamers round the north coast. The north coast is much broken up into promontories and fjords, or deep bays, at the ends of which most of the villages—they scarcely deserve the name of towns—are situated. The south coast, on the contrary, does not boast a single harbour where a steamer can lie in safety, between Reykjavik and Hafnafjord on the west, and Berufjord on the east, for, though it is true that the small trading station of Eyra Bakki is situated here, and small sailing vessels find some shelter from the Atlantic swell behind a reef of rocks, the entrance is narrow and dangerous for any ordinary craft in which a landsman would like to trust himself. Add to this, that many large rivers, quite disproportionate to the size of the island, come from the desert interior and here flow into the sea; that they are mostly broad, swift, and icy cold, and often with quicksands in their bottoms; and we see at once the reason that this part of the island is seldom visited by travellers, and that the inhabitants enjoy fewer of the necessities, to say nothing of the luxuries, of life than in other parts. Yet in this part are situated the great volcanoes of Kotlugia and Skapta Jokul, which it was the author's object to explore on his visit to the island in 1890.

Iceland can be reached in about four or five days by steamer from Leith, at intervals of about a fortnight or a month. Arriving at Reykjavik, we find ourselves in the capital of Iceland, a straggling village or small town of 2,500 inhabitants. The chief buildings are: the governor's house, a plain whitewashed building apparently of about a dozen small rooms; a church or cathedral, also whitewashed, capable of holding probably 400 people; and the Parliament-house, a building of very moderate dimensions, yet accommodating a free library on the ground floor, the Parliament chamber on the first floor, and the national museum in the attics. The Latin school, and one or two elementary schools, complete the sum of the public buildings, except the gaol, which has twelve cells, generally empty. Long may it continue so. There are several stores where may be bought a motley assortment of goods from a needle to a chain cable, and from paraffin to tinned meats, and Manchester goods. The houses are nearly all of wood or galvanized iron, for though there is plenty of stone and materials for making the best cement in the island, there is no fuel to burn it or lime. Dried fish is the staple commodity of the place. It can be seen spread out to dry on the rocks, the beach, and the streets, whenever the weather is favourable.

The climate is not as severe as might be expected from the latitude—just outside the Arctic circle. The island being situated in the Atlantic in the western prolongation of the Gulf Stream, does not suffer from such extreme cold as the adjacent coast of Greenland. As far as I could gather, the windward side of the island is generally covered with clouds and mist, owing to the moisture being condensed from the comparatively warm sea air by contact with the cold mountains of the interior; while the air, thus deprived of its moisture, passes forwards, and the lee side is comparatively dry and clear. As the wind was south-west during the greater part of June and July, 1890, the author, in the south-west of the island, had ample opportunities of verifying the truth of this statement. . . .

The northern part of the island has the reputation of being drier than the south, a fact amply accounted for by the prevalence of the south-west winds. On the other hand, to some extent every spring, but to a serious extent at intervals of a few years, large masses of polar ice occasionally drift down on the north coast, and that district then comes in for its share of cold, wet, and mist. In a bad "ice year" the hay—the only harvest—does not ripen; the sheep and ponies die in large numbers, or have to be killed, and the natives are threatened with starvation.

The first requisite to a traveller in Iceland is a guide and ponies. As to the former, Thorda Zoega had been written to in advance, and he proved a very obliging and trustworthy man. The Icelandic ponies are a similar breed to the Shetland ponies. They are very hardy little beasts, never taste corn, live on fresh grass in summer, and a little hay and a few dried codfish heads in the winter, and, as even these are often scarce, they are often very weak and in poor condition in the spring, a reason against visiting the island before June or July. It is usual to have two ponies to each load, animate or inanimate, one being loaded in the morning, the other in the afternoon. The spare ponies run along unloaded, and in this way they will travel long distances of 40 or 50 miles a-day for days in succession, provided the pace is varied, first walking, then trotting a few hundred yards, then a short gallop, then walking again, with occasional rests. They run well in company. Out of fifteen or twenty, one or two will soon be recognised as the leaders, and the rest will follow these, but no amount of whipping will persuade them to go even a short distance separately, a fact which the traveller soon finds very inconvenient if his pony does not happen to be the leader, and he is yet anxious to deviate occasionally to examine objects of interest off the track. This inability to run except in company has gained the Icelandic ponies a character for stupidity in this country, where they are seldom used except in the coal mines. For this purpose several cargoes of 300 or 400 each are exported yearly to Newcastle. The Icelanders do not understand breeding ponies, and hence make no effort at selecting the best to breed from, a fact which much diminishes their possible value as an article of trade.

The traveller will be astonished at the number of ponies necessary to transport himself, his guides, and the most moderate amount of luggage. Each pony will only carry a pair of wood boxes, each as large as a small Gladstone bag, and where, besides the personal luggage, photographic plates, provisions, and a tent have to be carried, this requires at least three pack-horses, or six including the relays. Two travellers and the guides, at two a-piece, make six more, or twelve in all; and twelve horses require two men or boys to prevent them straying at night, each of whom require two horses, making sixteen, or, with a spare horse, seventeen, which was the number taken. It is needless to say that this renders travelling in Iceland more expensive than in any other European country. . . .

Except in Reykjavik, and possibly one or two other towns, there are no hotels or inns of any kind, and the traveller must either live in his tent or lodge at the farmhouses, where it is only fair to say he will almost universally be received hospitably, and provided with the best, such as it is, that the place affords.

The Icclander is under great disadvantages in the construction of his house. If he has lime, he has no fuel to burn it; he has no wood except that cast on the shore by the Gulf Stream, which provides him with a few worm-eaten pine trees and a very occasional balk of mahogany which has broken astray from a raft in some South American river, or been washed off a ship's deck in a storm. He has no straw for thatch; no slates or tiles, or fuel to burn them; no glass, except that carried on horseback for great distances

over vile bridle-roads and well nigh impassable rivers. The house is therefore built of rough blocks of lava, bedded in turf, to form walls about 6 ft. thick, and banked up with earth on three sides. The roof boasts a few wooden rafters, but is mainly composed of birch bark covered with a thick layer of earth and sods. The best grass of the farm is that cut from its roof. The front of the house is usually built in gables, of stone and turf at the bottom and wood above, with a few small windows. These sometimes open, often not, in which case there will occasionally be one or two holes in the frames about an inch in diameter, closed by plugs, which can be removed when it is desired to admit a little air.

The Icclander has no coal or wood, and very little peat for fuel, and must content himself with a little turf or dried horse-dung. If he uses turf, it is years before it grows again; and often, in the meantime, the wind gets hold of the volcanic sand so laid bare, and spreads it over, and so ruins the adjacent pastures. In the result, he must build a house with no fireplace except in the kitchen, and with rooms so small that the inmates keep each other warm by overcrowding. The chief room is used as the sitting-room by day and the bed-room by night, and is occupied by the farmer, his wife and family, the servants, male and female,—in all often more than twenty or thirty persons! It is provided with no fire or stove, but with beds all round, sometimes two stories high, like the berths of a ship. The lower row serve as seats in the day. There are often, perhaps generally, no chairs, except one or two in the guest-room, which is kept for strangers, and only used by the family on ceremonial occasions.

What wonder that people, living in such conditions, in a vile, damp, cold climate, suffer from chronic bronchitis and rheumatism; that leprosy is far from uncommon, and that tape-worm, echinococcus cysts, and other parasites abound? The guest-room is generally about 10 ft. by 7 ft.; sometimes a little larger. It is lined with wood, and has several wood pegs, on which hang the spare garments of the family; several chests, which contain family treasures, and serve as seats; sometimes a chair or two, generally a small table. The bed is often built into a recess in the wall. If the traveller is induced, by stress of weather, to attempt to use it, he often finds it already occupied, and is often kept awake by the constant coughing in the next room; for every Icclander has a cough.

The inhabitants, though of the same stock as the Norwegians and the Yorkshiremen of England, both tall races, are mostly stunted by generations of hardship. Like most inhabitants of out-of-the-way places, they are almost without exception, hospitable, obliging, and honest in their dealings with strangers. The men wear short, double-breasted coats of home-spun cloth, generally dark coloured, and, when travelling, long boots, reaching well up above the knees. These are for fording the numerous rivers. At other times, they wear a sort of moccasin of untanned sheepskin. It is made in one piece, the corners being brought up, and fastened in some way over the instep. The women wear, usually, little distinctive of their nationality, except a cap with a tassel, said to be a survival of the old Phrygian cap. Some of them still possess jackets and skirts, ornamented with silver embroidery, and belts of filigree silver of fine workmanship. These are now getting scarce, but specimens may be seen in the Museum at Reykjavik.

With all the above described material difficulties to contend with, it is not surprising that many of the Icelanders have emigrated to America, but I was confidently assured that many of these emigrants would be glad to be back. The Icelandic farmer is not accustomed to hard manual work. His house was built generations ago, and receives, I will not say requires, little repairs. He has no ploughing to do, no harvesting except the little hay, he seldom walks about his farm, but almost always rides, and thus,

* From Paper by Tempest Anderson, M.D., B.Sc. Read at Society of Arts, on 15th ult., and published in their Journal.

though perhaps often short of food, contrives to exist. When he sells his belongings and emigrates, he realises, I was told, perhaps £50, most of which is spent by the time he arrives at his destination, and he then has no horse to ride, no ancestral house, and no means of living except by manual work, in which he has to compete with English and Irish labourers accustomed to do half as much more in the same time, though possibly not for such long hours.

In the more remote parts, such as the Skaptadalr, many articles of bone and stone are still in use, which, in more accessible districts, have been replaced by metal or earthenware. A photograph exhibited shows a wheelbarrow with a stone wheel, a steel-yard with a stone weight, a hammer with a stone head, and a net with bone sinkers. At the same farm a quern, or stone hand-mill, was in use; also horn stirrups, and harness fastenings of bone instead of metal buckles, to say nothing of bone pins and rude bone dice. At a neighbouring farm was a basin formed of the cup joint of a basalt pillar. Truly we still have a survival of the Stone age. Less remote than this is the meeting-place of the County Council of the district, consisting of a spacious cave in the lava. It would be difficult to find anything more appropriate to such a primitive land.

The roads, such as they are, are merely bridle tracks. Where they traverse stony moors and lava streams, they are mended by taking off the largest stones, leaving the smaller to tread down; where they cross bogs they are occasionally carried on artificial embankments. Bridges are almost unknown. In the few cases where new roads have been made, they have evidently been laid out by unskilled persons, and the work has often been begun in the middle; then, before the road has been finished, the plan has been changed, and the whole abandoned. I saw several large pieces of road out in the wilds leading nowhere, and which will never be used. It is only fair to say, however, that near Reykjavik there is about twenty miles of new road beautifully engineered by men who have recently returned from learning road-making in Norway. Even in these roads, however, there are gaps left unmade at intervals. This, I was told (let us hope falsely), is to prevent people spoiling them by using wheeled carriages or carts on them.

The numerous hot springs constitute one of the chief wonders of Iceland. They are very numerous, and as various in their volume as in the composition of their waters and the products deposited from them. The great Geyser, which has been so often described, spouts its mighty volume of water, only slightly charged with silica, and deposits a silicious sinter called geyserite; and several other springs, such as at Reykjanes, deposit similar formations; others are so charged with ferruginous and sulphurous mud, that they appear like boiling cauldrons of red and blue paint. Some of the Reykjanes springs, and many of those at Krisuvik, are of this kind, as are the more celebrated mud geysers of Krabla, in the north of the island

The rivers of Iceland are large, and out of all proportion to the island, and are especially large and dangerous in the southern part, as it is here that most of the great rivers draining the desert interior of the island, and especially the glacier streams proceeding from the Myrdals, Skaptar, and Vatna Jokuls, discharge themselves into the sea. They constitute, in this district at any rate, a most serious hindrance, and occasionally a positive danger to the traveller. Most of the worst are broad and swift, rather than very deep, a common size being a quarter of a mile or more wide, the depth in the fordable parts perhaps 4 ft., and the rapidity sufficient to make the icy cold water surge and foam up against the traveller's saddle and water boots. It is no wonder that a stream of these dimensions flowing over a sandy and gravelly bottom, constantly shifts its course, and that quicksands are common. A place may be safely fordable to-day, and

deep water next week. Hence the necessity of always taking a local guide from the nearest farm. Where the river comes from a lake, the water will be pretty clear, so that the bottom is partly visible; but if from a glacier, it will be loaded with mud, which prevents a view of the bottom, and this, with its icy coldness, adds greatly to the difficulty and danger of the crossing. Deaths occur not infrequently, from horse and rider being carried away. Sometimes a river spreads itself out into many parallel arms, and the guide in search of a ford seeks by preference such a part. If the river is not fordable at present, he must seek a ferry at a narrow part where the banks are good. This is always a tedious undertaking. First the ferryman must be found, which is sometimes difficult even if he lives on the near side of the river, but the difficulty is much worse if both he and the boat are on the opposite. Then all the horses are unsaddled, and the saddles, pack boxes, and gear are put into the rickety boat, and the horses, with much shouting and cracking of whips, are driven unwillingly into the stream. As soon as they are well swimming, and too far out to turn back, the travellers and guides hurry across in the boat as quickly as possible. By the time they are across, the horses have all landed, and, feeling cold, have started off at a canter. A guide runs after them, and with some trouble catches one, which he mounts, and pursues the others, and eventually drives them all back to the ferry. Then the whole cavalcade has to be re-saddled, and the packs adjusted, so that, before the caravan is fairly on its way again, at least an hour, but often more, has been wasted. What wonder that the guide always prefers to ford, if possible?

The main object of our visit was to examine the great volcanoes of Kotugiá and the Skaptá Jokul, the former of which appears not to have been visited this century, while the crater of the latter had, we were assured, never been reached since its formation in 1783.

The crater of Kotugiá is a vast fissure situated high up among the glaciers of the Myrdals Jokul, and is now so filled with snow and ice that our distant view of it did not promise much from a nearer inspection. Moreover, the weather being abominable, and the snow in bad condition, we were reluctantly compelled to abandon the attempt. One peculiarity of the eruptions arises from its position under a glacier or snowfield, viz., that when the incandescent gases and lava escape, the snow and ice are suddenly melted, and a vast out-pouring takes place of mingled boiling water, ice, volcanic mud, pumice stones, and ashes. This rushes with great velocity to the sea, devastating everything. We rode across a plain about twenty miles wide, which marks the track. The last eruption took place in 1866. Scarcely a blade of any kind of vegetation has yet begun to appear on this vast area. Certainly the volcano deserves its name of Kotugiá, the Kettle crater.

The second main object of our journey was to explore the lava field of the Skaptá Jokul, mentioned in all the books vulcanology as being among the largest known. The great eruption of this volcano in 1783 is well described by Lord Dufferin in his "Letters from High Latitudes," and especially by Henderson, a missionary who visited the island in 1814, when the facts were fresh in living memory. Two great streams of lava issued from the desert interior of the island, one descending the valley of the Skaptá river, and another, that of the Hervisflot, the first being about fifty miles long, and the latter perhaps forty. Both appear to have issued from the same great fissure, on which a line of craters has been thrown up. We determined to endeavour to reach the craters by the former valley. We slept at the last farm in the valley, and were fortunate in obtaining the old farmer as guide. He at once told us that, though he had taken several parties of travellers far up the course of the lava, none had ever reached the crater;

but he was quite willing to make the attempt. We therefore started next morning, keeping at first some distance from and then close alongside the lava. At last we found it necessary, in order to get to a set of cinder heaps which promised a passable road, to cross the main stream, and had some difficulty in getting our clever little nags across; but perseverance prevailed, and going further on, we encamped in the evening at the last patch of grass at the edge of the desert. Next morning, after a hard frosty night, the weather proved good, in fact, the only good day for many days, and by riding as far as possible into the desert, and then leaving the horses and going forward on foot, the craters, the objects of such a long journey, were at last reached. They extend in a line for several miles along a great fissure, which is still, in many places, clearly visible. At the lower end are two or three dwarf craters, then the two or three main orifices, from which most of the lava has poured out in billows of fire, now solid and black, it is true, but retaining their shape perfectly; and, further on, several others from which the gases and steam evidently chiefly escaped.

The higher craters, from which the steam and vapours escaped, are roundish or oval; and the fissure can still be seen along their bottoms in places, of a width of several feet. Traces of it are also visible going under the heaps of scoræ which separate adjacent craters, and here constitute their walls. The outer slopes of the craters are gentle, the inner often nearly precipitous, this conformation being apparently due to the scoræ having been ejected in a pasty condition, so that they stuck where they fell; and thus, while those which fell again directly into the fissure would be blown out again, those which fell out of the direct line attached themselves, and did not roll back, to fill up the vent, as we so often see in ash cones. These craters also illustrate most strikingly the fact that water, except as running streams, has scarcely any eroding power. Though they have been erupted over one hundred years, their edges are as sharp and perfect as the day they were formed, the explanation being that the scoræ are so porous, that the rain as it falls, and the snow as it melts, instantly soaks in, and never appears on the surface as a stream.

The lava near the craters is almost all of the corded or *pahoehoe* type, while, lower down the valley, immense fields of scoriaceous lava, or *aa*, of the most bristling character are seen. The most probable explanation being that the lava, at the commencement of the eruption, contained much imprisoned steam and vapours, which escaped in fiery froth, and solidified into the rough *aa*, and was carried down the valley on the surface of molten lava, which, in places, is as much as 600 ft. thick. The eruption was a prolonged one, and consequently the later lava had a prolonged simmering in the chimney or fissure, during which it parted with most of its vapour, and when finally it flowed out it had little left, not sufficient to form a layer of froth, but only a few "giant's children" or blow holes, of which some very fine examples occur near the craters. This sequence of events does not appear always to obtain. Near Hekla we saw a stream of lava scoriaceous on the steep slope near its point of eruption, but corded with most beautiful regularity in parts where it had flowed tranquilly on the plain, after parting with most of its vapour, and escaping from under the crust higher up.

We returned from the Skapta by way of the Fjallabaksvegr, a desert route of about ninety miles from the last house on the one side to the first on the other, and thence by Hekla, the Geysir, and Thingvall.

It is currently believed in Iceland, and was stated in some of the public prints at the time, that a volcanic eruption or earthquake had taken place at Cape Reykjanes in October, 1887, by which a large new *giá* or chasm had been formed, separating a large rocky promontory, almost deserving the name of a mountain, from the main cape on

which the lighthouse stands. This chasm, at least 50 ft. wide, was pointed out to the author from a passing steamer, the captain declaring that he remembered the rocks before they were rent asunder. Here, then, appeared to be a case of the formation of one of the *giás* or chasms which form such a characteristic feature of Icelandic geology. There are several such on the Reykjanæs peninsula, huge chasms several feet wide, and of unknown depth, stretching for miles across the lava desert of which the district is composed. In this district they usually, though not always, have a throw of a few feet or yards, but one of these at Thingvalla, more in the centre of the island, the Allmanagiá, has a throw of about 100 ft. In this case, the author is satisfied that the *giá* is due to the unequal settling of a crust of lava formed on the surface of a still fluid mass, which had found an outlet and flowed out after the solidification of the surface. He is not prepared, however, to say that this explanation will hold good in the case of all the rifts on the Reykjanæs peninsula. It certainly would not in the case of the great fissure from which the Skapta lava was erupted. Consequently, any clear case of the formation of a new *giá* in strata long cooled and solidified, would have been well worth investigation.

From a careful examination of the locality, it appeared that no fresh formation of a *giá* has taken place, but that certain small portions of the rock on which the lighthouse stands had been loosened, partly by ordinary denudation, and partly by earthquakes, which are frequent here, and had fallen on to the beach. The strata of partly consolidated volcanic ash, &c., are quite continuous at the end of the small cove or recess between the two large rocks above referred to.

THE HISTORY OF THE CHURCH AND PARISH OF ST. MICHAEL THE ARCHANGEL, DUBLIN.

(Continued from page 74.)

PREBENDARIES OF ST. MICHAEL.
(1541-1876.)

Collected from Cotton's "Fasti" and the
Vestry-books of St. Michael's.

PAT. ROLL, 1542; 33 HENRY VIII., 10 MAY.

KING Henry VIII., in his Charter, dated 1541, changing the name of the Priory of the Holy Trinity to that of "Christ Church Cathedral," assigned the churches of St. Michael's, St. Michan's, and St. John's to the three principal Vicars Choral, who were also made members of the Chapter.

In 1544, Archbishop Browne constituted those three churches permanently prebendal, leaving them still attached to the offices of Dean's Vicar, Precentor's Vicar, and Chancellor's Vicar.

In 1604, King James granted a new Charter, in which he changed the Vicars Choral into three Canonical Prebendaries, confirming the then holders in their several appointments, only under new titles. This constitution continued down to Disestablishment in 1870, since which time the churches of St. Michael and St. John have disappeared, and that of St. Michan is only a parish church.

1541-1546. JOHN CORRAGH.

Is made by the Charter first Vicar Choral, and Dean's Vicar, and Sub-Dean, and the rectory of St. Michael's is given to him for his prebend. He died April 12th, 1549.

1554-1586.

During this period, Dr. Cotton says the names of several individuals occur in various documents, signing as prebendaries, viz:—

[1554. Robert Lydd; Thomas More.

1561. W. Ryvan: Thomas Ponett, or Donett, or Donck?

1569. William Dermott, Chancellor of Christ Church Cathedral, 1563; alive in 1580.

Patrick Donn: Myles Lynch.

1586. Henry Whyte.]

1586-1596. LAURENCE BRYAN.

One of the Vicars Choral; resigned 1596.

1596-1600. LAURENCE (or Lancelot) MONY.
Brother of Henry Mony, an original Fellow of T.C.D., nephew of Abp. Henry Usher, and late Prebendary of St. John's.

1600-1607. JOHN ALBRIGHT.

Dean's Vicar Choral; installed July 29th. In King James's Charter of 1604, he is specially appointed under the title "Prebendary of St. Michael's." On 3rd Dec., 1603, he was appointed Dean of Raphoe. He died *circa* 1609.

1607-1612. THOMAS BAUGHE.

Late Prebendary of St. Michan's. He was Archdeacon of Kildare, 1604-1610.

1612-1625. JOHN EGERTON, M.A.

A Fellow of Trin. Coll. Dublin; elected Oct. 27th. A Regal Visitation Book calls him "a good preacher." He died in 1625. Dean of Kildare. His will is dated 24th Dec. of that year.

1625-1626. — JONES.

1626-1633. EDMUND DONNELLAN, B.D.

He was F.T.C.D. in 1611; Archdeacon of Cashel, 1616-1640. Installed in this Prebend, June 12th. Resigned in 1633. (See Family of Donnellan in IRISH BUILDER for July 15th, 1887.)

1633-1636. DUDLEY BOSWELL, M.A.

A Fellow of Trin. Coll. Dublin, 1628; elected Dec. 10th. In 1633 he resigned, and became Prebendary of St. Audoen's. (See a memoir of him in IRISH BUILDER for Aug. 1st, 1888.)

1636-1642. WILLIAM CARVILLE, B.D.

Installed March 14. In 1642 he was deprived, for non-residence.

1642-1647. HENRY HALL, M.A.

He was an Englishman, educated at Oxford; he became Chaplain to the Marquess (subsequently Duke) of Ormond; elected Oct. 3rd; installed Oct. 5th. In this same year he became a Prebendary of Blackrath, in Ossory. On 13th March, 1643, he was made Dean of Cork; and in 1647 he resigned this Prebend, and was appointed Precentor of Christ Church Cathedral. In this year he distinguished himself with other clergymen of Dublin, by sending a vigorous remonstrance to the English Parliament for leave to reject the Puritan "Directory," and to use the Book of Common Prayer. In 1660 he was consecrated Bishop of Killala, in St. Patrick's Cathedral. He died in 1663, and was buried in his cathedral, where his tombstone still remains with this inscription;—

H R I P

R P

Henricus Hall SSTD. et
huius olim necnon Achad
diae: Episcopus insignis, qui
obit Julii 19 anno Lm 1663
Henricus Auleus
Hinc vece aulvus
sum cinis, hic quæ sum: sed et hic
cinis cinis Christi est:
cætera, quæ mea pars, pars
mea Christus habet.

The above is inscribed in raised capital letters. There is no coat-of-arms on the stone.

1647-1660. JOHN BROOKBANK, M.A.

A Prebendary of Kilmanagh, in the Diocese of Ossory, 1636, which he resigned in 1647.

1660-1661. MORGAN HOPTON, B.D.

Elected Nov. 2nd; installed Nov. 19th; resigned, and became Prebendary of Donoghmore, in St. Patrick's Cathedral, 15th Feb., 1661.

1661-1662. WILLIAM RERESBY, D.D.

Elected Dec. 11th; installed March 6th; resigned Sept. 16th, 1662.

1662-1665. DANIEL WYTTER, M.A.

He was elected Sept. 17th; installed Sept. 23rd; resigned Feb., 1664, and was made Dean of Down, and Chancellor of Dromore. In 1669 he was raised to the Bishopric of

Killaloe. [In 1673 he presented to his former church of St. Michael's a silver flagon weighing 71 ounces; which was thankfully received by the minister and churchwardens. (See IRISH BUILDER for July 1, 1891.)]

On the 19th Aug., 1669, Dean Wyter was promoted to the See of Killaloe, and in the September following he was consecrated in the parish church of Cashel, by Thomas, Abp. of Cashel.

He took his degree of Doctor of Divinity from Trin. Coll. Dub., and after his elevation to that See, gave £50 towards providing plate for the College Chapel. He died in Dublin, on the 10th March, 1674, and was *bur.* at St. Michael's, Dublin, on 17th of same month. In his will he directed his books and other property to be sold for the benefit of the Church of Killaloe, bequeathing £10 to the poor of that parish, besides other small legacies. His will is printed in Dwyer's "The Diocese of Killaloe," p. 366 (Dublin, 1878).

1665-1694. JOHN GLENDIE, B.D.

He was elected Feb. 4th; installed Feb. 9th. In 1676 he was appointed Dean of Cashel, retaining his prebend. He died on 22nd January, 1694; and was buried in the chancel of St. Michael's Church, Dublin, the poor of which parish he kindly remembered in his will. (See IRISH BUILDER for June 1, 1891.)

1694-1695. BENEDICT SCROGGS, D.D.

Elected Feb. 19th; installed Feb. 20th. He resigned in 1695 for the prebend of St. John's.

Dr. Scroggs graduated at T.C.D., where he obtained Scholarship in 1675; B.A. *Vern.* 1677; M.A. *Æst.* 1680; B.D. *Vern.* 1687; D.D. *Æst.* 1692. He obtained Fellowship in 1682, which he resigned in 1695. In 1694 he became Prebendary of St. Michael's, which he resigned 1695 for that of St. John's. He died 3rd June, 1696.

"Short as his rule at St. John's was, his influence was felt in two directions: a stop was put to the expenses for drink and tobacco at vestry meetings, which had crept in with the reaction against Puritanism; and the foundation was laid for a school for the children of the poor and for servants, the first in the Kingdom of Ireland.

"He was married to a *dau.* of Col. Roger Moore, of Johnstown, and of the Lower Blind-quay, and was therefore the brother-in-law of Dr. Daniel Foley, of St. Werburgh's, and Bishop of Down, another ex-Fellow of Trinity College."—*Rev. Dr. Hughes's Church of St. John, Dublin.*

1695-1705. JOHN FRANCIS, M.A.

He was elected Dec. 19th; installed January 3rd. From 1696 to 1723, he was Dean of Leighlin. He resigned this stall in 1705, and became Rector of St. Mary's, Dublin, on the 22nd August of that year. He was father of Rev. Dr. Philip Francis, the translator of Horace, and grandfather of Sir Philip Francis, the reputed author of Junius's Letters.

1705-1728. FRANCIS HIGGINS, M.A.

Francis Higgins was born at Limerick in 1669. In 1694, he was curate of St. Audoen's, and was subsequently appointed Preacher in Christ Church Cathedral. (See IRISH BUILDER for 15th Nov., 1885). He was elected Prebendary of St. Michael's, July 14th, 1705; admitted Aug. 9th, and installed next day. In 1726 he reports to the Dean and Chapter that, by reason of his having accepted the Archdeaconry of Cashel, he apprehends his prebend to be disputable, and prays to be re-elected. He was accordingly re-elected on April 10th; instituted the same day; and installed the next. He died in August, 1723, and was buried in St. Michael's Church.

"Francis Higgins, Archdeacon of Cashel, who has been styled 'the Irish Sacheverell,' born in 1669, was son of an apothecary, of the City of Limerick. He entered Trinity College, Dublin, as a sizar, 4th May, 1685; obtained a scholarship in 1688, and graduated B.A. 1691, and M.A. 1693. He was 'reader'

in Christ Church Cathedral, in 1690; rector of Gowran in 1694; and became prebendary of Christ Church Cathedral, Dublin, 14th July, 1705. In 1706 Higgins made himself notorious in London by violently asserting in sermons that the church was in danger, and by expounding extreme high-church views. On Ash Wednesday (February 1706-7) he preached at Whitehall, and denounced the favour shown in high places to champions of heterodoxy like Asgill, Toland, and Emlyn, and to puritans and presbyterians. On 28th Feb. Higgins was arrested on the Secretary of State's warrant, and in April the Grand Jury of Middlesex found a true bill against him for preaching sedition, but in May the Attorney-General entered a 'nolle prosequi' (Luttrell, *Brief Relation*, vi., 164, 177). Archbishop Tenison seems to have summoned Higgins to Lambeth before his arrest, and urged him to alter his tone (Cf. *Hist. MSS. Comm.*, 2nd Rep., p. 244). Higgins was obdurate, and published not only his sermon, but a separately issued 'Postscript' (for a penny), giving a very partial report of the interview with the Archbishop. A rhyming version of the 'Postscript' also appeared as 'a new song.' On 29th July, 1707, the Irish Parliament directed the common hangman of Dublin to burn Higgins's 'Postscript.' Higgins was again prosecuted in 1712 as a 'disloyal subject and disturber of the public peace.' He was collated to the archdeaconry of Cashel in 1725, and, dying in 1728, was interred in his prebendal church. Both as a member of the lower house of convocation in Ireland, and as a magistrate for the County of Dublin, Higgins showed great activity and stormy temperament. He was of coarse tastes, and is described in a satirical poem as 'the son of pudding and eternal beef.' A contemporary pamphlet speaks of him as a 'plump red-faced man, zealous, talkative, very fond of quoting law (not always accurately), who thinks too little, and who talks too much.'—*Diet. Nat. Biography*, vol. xxvi.

1728-1734. JOHN ANTROBUS, M.A.

A Canon of Kildare; elected and admitted Sept. 6th; and installed next day. In 1734 he resigned, for the Prebend of St John's.

Mr. Antrobus graduated at T.C.D. in 1709, and became Curate of St. Kevin's in 1713. In 1722 he was appointed fourth Canon of Kildare; and on 1st Sept., 1732, he obtained faculty to hold Lemanaghan, Wherry, and Tessaurean, in Meath, in *commendam*, with the Stall of St. Michael's, to which he had been elected in 1728. By a new faculty, dated Oct. 23rd, 1734, he held the same livings along with St. John's. In 1735 he went to St. Michan's, and, dying 28th April, 1761, was buried at St. Peter's, May 3rd. His residence for most part of the period was in Aungier-street. (See Rev. Dr. Hughes's "Church of St. John.")

1734-1736. GABRIEL JAMES MATURIN, M.A.

Archdeacon of Tuam; elected Nov. 6th; instituted and installed Nov. 28th. In March, 1736, he became Prebendary of St. John's.

Gabriel James Maturin was born in the year 1700, at Utrecht, in Holland. He was the son of Peter and grandson of Gabriel Maturin, a Huguenot priest, of Paris, who, flying from the persecutions which then prevailed, took refuge in the City of Dublin, where he arrived early in the beginning of the eighteenth century. Gabriel James received the first rudiments of his education in Dublin, under Dr. Christopher Lloyd, Master of the Free School of St. Patrick's Cathedral (Dean of Elphin, 1739), and was admitted a Pensioner in Trin. Coll., Dublin, 8th April, 1717; Sch., 1720; B.A. *Vern.* 1722; M.A. *Vern.* 1725; B.D. and D.D., —. (Todd's Catalogue does not give the dates of his degrees of B.D. and D.D., neither does Mason; but he had both, as appears by the faculty of August 13th, 1743.) Dr. Maturin's promotions in the church were rapid, as follows:—Chancellor of Kildare, 10th August, 1732; Precentor of Kildare,

30th March, 1773; Prebendary of St. Michael's, Dublin, 6th Nov., 1734; Preb. of St. John's, Dublin, 19th March, 1735; Archdeacon of Kildare, June 14th, 1736; Dean of Kildare, 15th Feb., 1739; Vicar of Dromaragh and Garvaghy (Dromore); Archdeacon of Tuam, and Rector of St. John's, Headford (Tuam), 20th Aug., 1743; Preb. of Mulhuddert (Dublin), 5th Sept., 1743; and Dean of St. Patrick's Cathedral (Dub.), 20th Nov., 1745. Dean Maturin enjoyed this latter dignity but a very short time. He died 9th Nov., 1746, and was buried on the 11th of the same month, in the Lady Chapel (then the French Church), in St. Patrick's Cathedral, Dublin. No stone marks his grave, but it was under the communion-table. (See IRISH BUILDER for 1st May, 1887.)

1736-1747. JOHN OWEN, D.D.

Instituted March 22nd; installed next day. In 1737 he was made Precentor of Kildare; in 1744 he obtained the Prebend of Swords, in St. Patrick's Cathedral; and in 1741 the Deanery of Clonmacnoise. He resigned this Prebend in 1746, and took that of St. John's.

John Owen entered T.C.D., where he obtained a Scholarship in 1706; graduated B.A. *Vern.*, 1707; M.A. *Æst.*, 1710; B.D., and D.D. *Vern.*, 1730. Dr. Owen received a fair share of Church preferments:—In 1710 he became Curate of St. Andrew's, Dublin.

1722, Prebendary of Errew, in diocese of Killala.

1726, Dec. 1st, Rector of Tamlaght O'Crilly (Derry), *vice* Walsh.

1727, May 4th, Rector of Boveragh (Derry), *vice* Nicholson.

1731, Aug., Rector of Tamlaght-Finlagan (Derry). He held these three parishes by faculty, dated 6th Aug., 1731.

1735, March 22nd, Prebendary of St. Michael's, Dublin.

1736, Rector of Lemanaghan, Wherry, and Tessaurean (Meath), faculty dated 2nd April, 1736.

1737, June 6th, Precentor of Kildare.

1741, Feb. 18th, Dean of Clonmacnoise, *vice* Anthony Dopping to the Bishopric of Ossory.

1744, Aug. 17th, Prebendary of Swords.

1746, Dec. 3rd, Prebendary of St. John's, Christ Church Cathedral.

He died, 25th Feb., 1761, and was buried at Swords, deservedly regretted. His town residence was in Stephen-street. The following inscription is on his tombstone:—

To the memory of
JOHN OWEN, D.D.,
Whose remains lie interred underneath,
Dean of Clonmacnoise, Prebendary of the
Cathedrals of Christ Church & St. Patrick's,
Dublin, & Vicar of this parish,
Who during a ministry of fifty-three years,
in every station to which he was appointed,
approved himself
a faithful, diligent minister of the Gospel,
of piety unfeigned, of manners without blemish,
adorning his religion by the most extensive benevolence,
and ever happiest
When he had an opportunity of employing the means
with which the Almighty had blessed him
in advancing the happiness of his fellow creatures;
His nephews William and Garret Owen
in grateful veneration of his virtues
Have erected this.

He departed this life 25th of February, 1760,
in the 74th year of his age.

Arms—A chevron between 3 lions rampant.
Crest—A lion rampant.

1747-1749. WILLIAM FLETCHER, M.A.

Elected Feb. 20th; admitted and installed June 5th. He resigned on 30th Dec., 1749.

1749-1761. EDWARD LEDWICH, LL.D.

Elected Dec. 30th; admitted Jan. 4th; and installed Jan. 10th. In 1761 he resigned this Prebend for that of St. John's. In 1772 he was elected Dean of Kildare, but retained his Prebend in Christ Church. He died 1782.

Dr. Edward Ledwich was a Scholar of T.C.D., 1728; and graduated B.A., *Vern.*, 1729; M.A., *Æst.*, 1732; LL.B., and LL.D., *Vern.*, 1739. He also was a pluralist, and held the following livings:—

1735, Curate of St. John's, Dublin.

1746, Jan. 27th, Rector of Fahan (Derry).

1746, Vicar-General of Kildare.

1749, Dec. 30, Prebendary of St. Michael's (Dublin).

1750, Jan. 5th, Faculty to hold this Prebend with Fahan.

1760, Oct. 3rd, Fourth Canon of Kildare.

1760, Dec. 8th, Treasurer of Kildare.

1761, Feb. 28th, Prebendary of St. John's (Dublin).

1761, March 2nd, Faculty to hold this Prebend with Fahan.

1761, May 1st, Prebendary of St. Michan's.

1761, Nov. 6th, Prebendary of Comber (Derry), *vice* Charles Lord Blayney.

1761, Nov. 13th, Faculty to hold these two last Prebends.

1765, June 5th, Archdeacon of Kildare.

1772, May 6th, Dean of Kildare, *vice* Fletcher, deceased.

He *m.* (licence dated 26th April, 1746) Susannah, *da.* of the Right Rev. William Barnard, D.D., Bishop of Raphoe (cons. at St. Michael's, Dublin, 19th Aug., 1744), and subsequently of Derry. He died 22nd June, 1782.

[Dr. Cotton, in his *Fasti Ecclesie Hibernicæ*, vol. ii., p. 68, confounds our Prebendary with Dr. Edward Ledwich, the well-known Irish Antiquary, son of John Ledwich, a Dublin merchant, born in Dublin in 1738, and died at his residence in York-street, 8th August, 1823, aged 84.]

(To be continued.)

MEMORIAL TO DR. CHAPLIN, OF KILDARE.

THE many friends of the late Dr. Chaplin, ex-President of the Irish College of Surgeons, and Surgeon to the Kildare County Infirmary, will learn with interest (says the *Medical Press*) that a movement is on foot to perpetuate his memory by a memorial window in the Cathedral of Kildare. Dr. Chaplin had for nearly twenty years devoted himself to the restoration of this ancient Cathedral, and mainly through his exertions it has been almost re-created, at a cost of £7,000. At the time of his death he was working to have a handsome west window put up in memory of the late Duke of Leinster, who had always been a benefactor to Kildare and its district. It is now proposed to erect a similar window at the east end of the Cathedral, to the memory of Dr. Chaplin, and the movement is headed by the Archbishop of Dublin (Lord Plunket), the Duke of Leinster, the Marquis of Drogheda, and a very influential committee. Without doubt, the memory of Dr. Chaplin well deserves to be preserved; and we entertain very little doubt of the success of the movement.

CORRESPONDENCE.

WORKMEN'S COTTAGES FOR RINGSEND.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—As public attention has been lately drawn to the wretched and overcrowded dwellings in which so many of the working classes in Ringsend and in other districts of this parish have been compelled to live, it affords me great satisfaction to announce the likelihood of a reform we have just reason to expect, and, it is to be hoped, without further unnecessary delay. Great misconception has hitherto prevailed regarding the facts of the case. For long it had been supposed that the difficulty of procuring a site for the erection of suitable dwellings from the Earl of Pembroke was a chief obstacle; but now we are assured, on what may be considered the best authority, that the Pembroke Township Commissioners never made a formal proposal to his lordship to purchase or procure ground for the building of workingmen's cottages. However, as all ambiguity has been removed at present, owing to the generous and liberal grant by the Earl of a site in all respect most eligible and freed from rent, the people of Ringsend feel the liveliest gratitude towards their noble benefactor, not alone for this gift, but for those favours about to be conferred on their ancient town through the projected establishment of a technical school for the promotion of industrial pursuits. It may here be observed that when the Earl and Countess of Pembroke were in our locality

last year, the Countess very graciously visited the houses and rooms in which our people lived, and conversed with them regarding their social state and industrial occupations. She also expressed a great desire to aid, so far as lay in her power, any effort that could be devised to promote their welfare and home comforts. Among the Pembroke Town Commissioners we have some truly good men, who laboured earnestly to improve the house accommodation for our poorer industrious inhabitants, and to remove those nuisances so dangerous to health and morality. Foremost among those representatives I may, without disparagement to others, name Sir Robert Jackson, who has zealously pursued such objects; and as no valid excuse can be offered for much longer deferring the erection of the Workmen's Cottages, public opinion will demand that proper action shall be taken to perfect whatever preliminaries may be required to meet an admitted public necessity. There can hardly be any doubt but the question must soon again come before the board, and it is to be hoped that all shall unite to forward a project that must prove so conducive to the sanitary state and social improvement of our township.—Yours,

JOHN CANON O'HANLON, P.P.
St. Mary's, Irishtown, March 27th, 1892.

NOTES OF WORKS.

A new lecture hall, in connection with the Presbyterian congregation, has been opened at Castleblayney, County Monaghan. The plans are by Mr. John Harvey, and the work has been carried out by Mr. Thomas White—both of that town.

Mr. Walter G. Doolin, M.A., has prepared plans for the erection of a new R.C. parish church at Borrisoleigh, Co. Tipperary. Tenders are invited before 15th inst.

A Public Lighting and Gas Meter Testing Station is about to be erected in Tara-street, under the Gas Committee of the Dublin Corporation. The plans, specifications, &c., have been prepared by Mr. Spencer Harty, City Surveyor.

Estimates are required for the building of a Parochial House at Ravensdale, Dundalk. Mr. W. H. Byrne is the architect.

MISCELLANEOUS.

STEALING ELECTRICITY.—A St. Louis court, says the American *Engineering Record*, has before it a novel case for adjudication. An electric light and power company brought suit for theft of electricity by bringing wires entering a store before the wire entered the meter. The defendant raised the point that electricity cannot be stolen, inasmuch as in order to constitute stealing there must be an asportation, a condition impossible in the case of electricity, which, not being in any wire under control, is not the goods, property, or effects of any one.

A NEW IRISH SEAL.—A new great seal for Ireland has been completed by Mr. Allan Wyon, chief engraver of her Majesty's seals, to take the place of the seal designed on the accession of the Queen, which is now worn out. The new seal is an exact replica of its predecessor, and is similar in all respects to the great seal of England, save that in the exergue a harp with shamrock leaves takes the place of the trident head and sprays of oak, which form the distinctive mark of the English seal. The material is silver, the weight of the whole about 15 lb., and the diameter of the impression is 6½ in.

A SALUTARY LESSON FOR A BUTCHER.—It is satisfactory to note that the new Public Health Act for London is being utilised for the beneficent purposes for which it was designed. Under its clauses, a salutary lesson was administered to a butcher who brought himself within the clutches of the law by sending diseased meat to market. The evidence showed that a live animal was sold to the defendant, at Calcott, near Bridgewater, in Somersetshire, for five shillings and afterwards the beast was slaughtered and sent to the Central Meat Market. The meat, on being examined on the morning of the seizure, was at once pronounced to be dangerous for human consumption, and on the case being brought before Alderman Ritchie, at the Guildhall Police Court, a fine of £50 and £10 cost was inflicted upon the defendant. The magistrate observed that a more wicked act than the defendant's could not have been conceived.—*Medical Press*.

PAPER BARRELS.—Paper barrels of various kinds and sizes have been made direct from paper pulp by an ingenious process invented by Mr. J. R. Thame. This process is now being carried out by the Universal Barrel Company, of 9 New Broad-street, London, at their factory at Boxmoor, Herts. This factory, which is known as Two Waters Mill, has an historic interest. It was one of the first paper mills erected in England, and was started during the reign of Queen Elizabeth. The present process was experimentally begun there about four years since, and has been gradually developed into a practical manufacture. In this process the materials used are waste paper and any waste fibrous substances. After being sorted the materials are fed into a beater working in a tank of water, where they are gradually reduced to a pulp. This pulp, greatly diluted with water, is then fed to a machine in which it is carried by an endless travelling blanket under a series of cylinders upon which the pulp is deposited, the deposition going on, under a slight pressure, until the required thickness of the barrel-body is reached. An ingeniously contrived contractable core encases the cylinder, and on this the pulp is fed, and when the body has been formed it is removed from the cylinder and taken, still on the core, to the drying-room. It is this facility for removing the barrel-body from the depositing cylinder by the intervention of the core which renders the process successful. It only requires about four minutes to form the body, which takes about a day to dry. When dry the bodies are trimmed up and the bottoms and heads fitted in. All the parts are waterproofed by being dipped in a heated mixture of resin and resin oil. There is no waste whatever in the manufacture, as the cuttings and trimmings at every stage are returned to the beaters to be used over and over again. Bulged barrels are made in a hydraulic shaping-press. The present plant is equal to an output of 300 barrels per day of 24 hours, and the products are being placed on the market and have the approval of users.—*Timber Trades Journal*.

STEAM-ROLLING ON COUNTRY ROADS.—One of the most complete reports recently made of the cost of steam-rolling has been that made by Mr. Allan Greenwell (the Surveyor of Frome Highway Board) to his Board in Somersetshire. The stone used, 6,000 cubic yards, was nearly all mountain limestone, and the cost was 8s 8d, or nearly 9d. per cubic yard, or about ½d. per square yard. Each cubic yard sufficed for 17 superficial yards of road. Part of this work was on main and part on district roads, and the work was carried on in the spring and summer. The roller used was 10 ton, with a width of 6 ft. 3 in. He says:—"I believe that at least 25 per cent. of material is saved as compared with stone worked in by the traffic; and, as regards labour, all after-raking is avoided, and scraping is reduced to a minimum. Extraordinary instances in favour of steam-rolling have been furnished by the late severe winter. Materials which were laid in the autumn of 1890, but not rolled, were still unconsolidated in the spring of 1891, and the waste caused by the trituration under the traffic upon the frozen roads was so great as to necessitate a further coating in that year. If this coating had been rolled, it should have lasted three years." In connection with this matter the importance of the use of a binding material is also very often overlooked, and it is well to recall the experiences of Mr. Deacon at Liverpool:—"No. 1, 1,200 superficial yards trap rock took twenty-seven hours to roll and consolidate without any binding. No. 2, 1,200 superficial yards ditto took eighteen hours to consolidate with trap rock chips from a stonebreaker. No. 3, 1,200 superficial yards ditto took nine hours to consolidate with a binding composed of one-fourth macadam sweepings obtained in wet weather, mixed with silicious gravel, from ½ in. to pin's head size. And he reported that No. 3 wore better than No. 2, and No. 2 better than No. 1, whilst the time taken for No. 3 was one-third that for No. 1. This points very clearly to the fact that it is an economy, as practised in Monmouthshire and some other parts of the country, to transport binding material as well as metalling on to the roads; and more especially is this the case where inferior metal, such as Kentish rag, is used.—*Builder*."

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The Irish Builder.

NOTICE.

All communications for the literary department of this journal should be addressed to "The Editor."

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LATE ADVERTISEMENT.

TO BUILDERS.

TENDERS are invited from competent persons for the carrying out of Certain ALTERATIONS, REPAIRS, and ADDITIONS, consisting of NEW CHANCEL, SIDE CHAPELS, and SACRISTY to the PARISH CHURCH OF LEIGHLIN, near BAGINLS-TOWN, in the County of Carlow, for the Rev. JAMES CONNOLLY, P.P.

Plans and Specification can be inspected at my Office, after this date, and at the Presbytery, Leighlin, after 9th April. Tenders to be posted to me, sealed and endorsed, on or before 27th April next.

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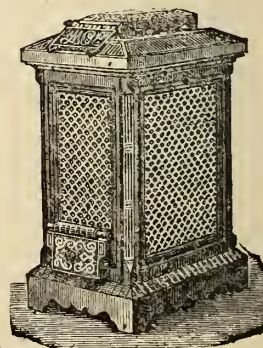
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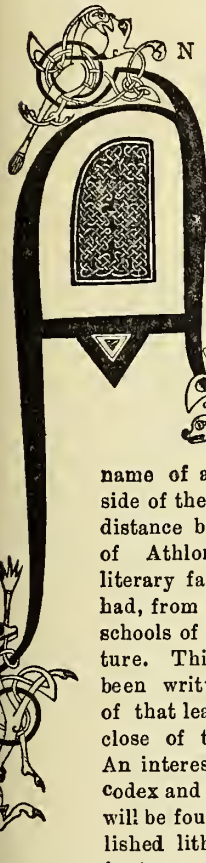
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THE IRISH BUILDER.

VOL. XXXIV.—No. 776.

"THE LEABHAR BREAC."



AN ancient Gaedhlic MS., generally called Leabhar Breac, or "The Speckled Book," is preserved in the Library of the Royal Irish Academy. We are told, however, that the proper name of this book is Leabhar Mór Dúna Doighré, or "The Great Book of Dún Doighré."

This was the name of a place on the Galway side of the River Shannon, some distance below the present town of Athlone, where the great literary family of the MacEgans had, from time immemorial, kept schools of law, poetry, and literature. This book appears to have been written by some members of that learned family, about the close of the fourteenth century. An interesting description of this codex and of the MacEgan family, will be found prefixed to the published lithographed edition, pp. ix. to xx. It is not a transcript

of any one book, but, as will be seen, a compilation from various ancient books, preserved chiefly in the churches and monasteries of Connacht, Munster, and Leinster. This valuable codex is a collection of pieces, in a most beautiful style of penmanship and on fine large folio vellum. The contents are all, with one exception, of a religious character; and all, or nearly all, in the purest style of Gaedhlic. Many of the tracts are translations and narratives from the Latin. Among these are found a Scripture narrative from the Creation to Solomon; the birth, life, passion, and resurrection of our Lord; and the lives, and manner of death of several of the apostles; various versions of the finding of the Cross, &c. There are, besides these, several pieces, ancient sermons or homilies for certain days and periods of the year—such as sermons for Lent, Palm Sunday, Easter Sunday, Pentecost, on the institution of the Holy Eucharist, and others of a similar kind. In these sermons, the Scripture text is always given in Latin, and then freely and copiously expounded and commented on in pure Gaedhlic; and, in the course of these expositions, various commentators are often mentioned and quoted. Besides these sermons, there are many small tracts on moral subjects, illustrative of the divine teachings of our Lord. St. Sechnall's Hymn, in praise of his uncle St. Patrick, is also to be found there; as well as the celebrated Altus of St. Colum Cille; a Lorica by Gildas (who is believed to have been a Saxon saint), &c.

"Among the original Irish tracts in the Leabhar Mór Dúna Doighré, are found pedigrees of the Irish Saints, compiled, it is

believed, by Aengus Céle Dé, at the close of the eighth century, as well as his celebrated Litany of the Irish Saints; ancient abstracts of the lives of Saints Patrick, Colum Cille, and Brigid of Kildare; a curious historical legend of Cathal Mac Finghuine, king of Munster, in the eighth century, of Mac Conglinne, the poet, and of the abbot of St. Finnbar's monastery at Cork; the martyrology of Aengus Céle Dé, written chiefly at Tamlacht (or Tallaght, in the County of Dublin), before the year 798; ancient copies and expositions of the Lord's Prayer and the Ten Commandments; ancient rules of discipline of the religious order of the Céle Dé, vulgarly called Culdees; ancient Litanies and Liturgies, monastic Rules, Canons, sacred Loricæ, and countless other articles of the same tendency,—among them an ancient rule and law for the observance of Sunday, or the Lord's day. The Leabhar Mór Dúna Doighré contains also a Life of Alexander the Great, remarkable as being copied from the ancient Book of the celebrated St. Berchán of Cluain Sosta (or Clonsost), who flourished so early as the seventh century."*

Lately, it has been edited and reproduced in lithograph facsimile, imperial folio, on toned paper, by Professor Bryan O'Looney and Mr. Joseph O'Longan; and an edition of two hundred copies has been issued, under the auspices of the Royal Irish Academy. This was done, with a view of supplying an acknowledged want, to promote the more accurate study and critical investigation of the ancient literary and historic monuments of Ireland. Hitherto, this object had been impeded by the circumstance, that the oldest and most important Irish Manuscripts in their integrity were available only to those who could visit the places of their deposits, no facsimiles having been published of their entire texts. Again, to place beyond risk of destruction the contents of Manuscripts, which are regarded as unique monuments of the ancient native literature of Ireland, the publication had been undertaken of carefully collated lithographed copies of some, among those preserved in the Royal Irish Academy. To John T. Gilbert, M.R.I.A., is due the conception of this design, while his patriotic zeal has eminently promoted and procured the most successful issue of various Irish Manuscripts, copies of which are now distributed among the learned Celtic scholars who live in the most distant countries of the world.

THE MATCH TRADE.†

HOWEVER ancient the art of producing fire may be, it has, nevertheless, been very slow in its development, and its present comparative perfection is a thing of recent date—the more important inventions in this direction belonging to our own times. In olden days the flint and steel were the most common means of producing fire; and we are still reminded of the important part the tinder-box played among the ancient Romans when we see the tinder-boxes that are preserved as curiosities and relics of the earlier centuries. Now the match trade has assumed very large proportions, and employment is given to a very large number of persons in connection therewith. The first phosphorus matches in use were those made by Derosne, in France, in 1816, and the industry rapidly extended to most other civilised countries. The igniting matter of the oldest phosphorus matches of which we have any knowledge,

consisted of carbonic acid, kali, and phosphorus, and they possessed in a high degree the property of quick and easy ignition, though the lighting was accompanied by an explosion, flinging the burning matter about in every direction—a fact which rendered the use of these matches extremely dangerous. The consequence was that in several countries people were forbidden to use them. However, a feasible way of obtaining light and fire had been discovered, and chemists in divers countries devoted their time and attention to the production of more suitable and less dangerous igniting substances, and in the year 1835, after a legion of experiments, a safe lighting method was invented. Thus the problem was finally solved, and from that time the manufacture of lucifer matches has continued to be one of the world's conspicuous industries. Notwithstanding the marked improvement affected, the new composition ignited too easily, and gave off an offensive smell, while a disease broke out among the operatives in the factories, attacking their cheek-bones and gums, and the mortality was alarming. For some time it was thought that means had been found for obviating this evil by the use of red phosphorus, but matches made by this material never gained the popular confidence, and the use of them ceased as speedily as the desire for them had arisen. In the year 1848, an invention was made in Germany which at once became popular. This consisted in applying red phosphorus to the tablet upon which the match was rubbed, instead of placing it upon the match itself. The manufacture of friction matches has since then been developed and improved in a marked degree, and particularly so in this country, while Sweden has perhaps even out-distanced England in this respect. The Swedish matches have a very extensive sale, not simply in Sweden, but also in most foreign countries notably in England, whence they are largely exported to the East Indies, China, Japan and, indeed, to all parts of the world. Competition is exceedingly active. The Swedish match is, for the most part, made of aspen wood and is square in form. The famous safety match deserves the reputation it has gained as being much less dangerous than any other friction match now in use. Match factories are now established all over Sweden, one establishment employing 2,000 workmen all the year round. The nature of the work admits of the employment of young persons of both sexes. Unfortunately, even in this country, the matches have to be sold at such a cheap rate that wages are low, as was fully demonstrated at the time of the strike of match girls some time ago, when many cases of extreme hardship were, it will be remembered, reported.

INTERESTING ANTIQUARIAN OBJECTS.

At a recent meeting of the Cork Historical and Archaeological Society, the Rev. Canon Moore, M.A., M.R.S.A., Rector of Mitchelstown, exhibited and described three objects of antiquarian interest in the possession of a couple of his parishioners. The first was a solid silver pectoral Crucifix, originally the property of Terence Albert O'Brien, Bishop of Emly, who was born in 1600, and was executed by Ireton, at the close of the Siege of Limerick, in 1651. This Crucifix was worn by the bishop at the time of his execution. It is a very peculiar pattern, having a figure of the B.V.M. on the reverse side of the cross, as well as the usual figure of the Saviour on the obverse side. The second object exhibited and described was a silver Chalice, presented to the Convent of the Hermits of St. Augustine, Callan, in 1648, by Henry Comerford, and Ellina, his wife; and the third was a large tortoiseshell Snuff-box, with solid silver lid, engraved with the Kingston coat-of-arms, presented by James Baron Kingston to Mr. William Johnston, in 1728. This Lord Kingston was the founder of the institution known as Kingston College, Mitchelstown.

* See Professor Eugene O'Curry's "Lectures on the Manuscript Materials of Ancient Irish History," Lect. ii., pp. 31, 32; Lect. xvi., pp. 352, 353.
† From the *Devon Gazette*.

THE SEWAGE DISPOSAL OF ISOLATED DWELLINGS.*

THE literature of sewage disposal is at the present time very voluminous. For the past fifty years the attention of sanitarians has been specially devoted to this question, and the methods which have been from time to time adopted have become almost innumerable. Up to the present we can hardly be said to have achieved success; but any impartial critic must admit that great strides have been made in the direction of the solution of the problem, and, although the experience has been bought at the expense of many costly failures, we must all feel that, were it not for the efforts which have been made to grapple with this difficulty, the condition of our large centres of population would long since have become intolerable. But, while great attention has been paid to the sewage disposal of large towns, very little has yet been done in a scientific way as regards the disposal of slop water, human excreta, and other constituents of ordinary sewage of isolated buildings.

The object of the writer, in the present paper, is, to give a short account of some modern methods for successful sewage treatment in such cases as these. It is intended more particularly to describe a few works which the author has himself carried out, and which may serve, perhaps, to illustrate both the difficulties of the problem and some ways in which these difficulties can be surmounted.

As we are all aware, the old-fashioned devices for disposing of the sewage of isolated buildings in rural districts in which no main drainage system existed, were defective and objectionable in the extreme; they violated all the best known principles of sanitation, and were unquestionably the cause of a great deal of impaired vitality and actual disease.

The three alternative methods—one of which was formerly generally adopted—were as follows:—

1. The sewage was conducted into a cesspool, situated as a rule some distance from the building, and usually provided with an overflow connected with the nearest ditch or stream. These cesspools were divided into two classes: those which were water-tight and those which were porous, and permitted the sewage to soak into the ground. By far the greater number of cesspools formerly constructed were so designed as to permit of this soakage taking place. Water-tight cesspools were generally found to give rise to serious practical difficulties in working, as it is obvious that the quantity of liquid which a closed chamber can contain is strictly limited by the dimensions of the chamber. A water-tight cesspool is rapidly filled, and must either be emptied by pumping, or the surplus sewage must be carried away by the overflow into the nearest available outfall. Hand pumping for sewage is found to be laborious, and is seldom adopted, and, if provided for, is usually neglected; so that in practice the water-tight cesspool is very little better than an intercepting chamber for catching the solids contained in the sewage, while all the liquid is allowed to pass away. We all know that the removal of suspended matter from sewage is of little or no benefit from a sanitary point of view, as the liquid which remains contains almost all the nitrogenous matter, and is practically quite as dangerous to health as the crude sewage itself. Cesspools which are not water-tight, and permit sewage to escape into the ground, are absolutely inadmissible from a sanitary point of view. It might not at first sight appear why the objections to this method of disposal are so great. We are in the habit of irrigating land with sewage, and we know that it can be safely disposed of in this manner. It might therefore be assumed that by allowing sewage to soak into the ground, we achieve the same result in another way, and that, after filtering through the subsoil, the liquid

would become innocuous, and even beneficial to the land through which it passes. But such is not the case. To dispose of sewage safely by application to land, it is now universally conceded that the sewage must be put upon the land while it is fresh; that it must be carefully distributed, and that the land must be thoroughly aerated, in order that bacteriological influences, which play such an important part in sewage purification, may have full scope. The sewage should be applied in moderate quantities only, and the application should be made intermittent, so as to give the soil, after each discharge, an opportunity to breathe, as it were, and to allow the finer parts of suspended matter of the sewage to be oxidised or destroyed.

2. The second method formerly adopted was, to discharge the crude sewage into an open ditch; an offensive and dangerous nuisance has always been the result of such an arrangement as this. Under these conditions, the liquid collects in a stagnant pool near the point of outfall; a rank growth of coarse weeds obstructs its passage, and a large mass of fermenting sewage soon accumulates, accompanied by the evolution of noxious gases, the result of slow fermentation. Very frequently, owing to the position of the ditch and the imperfect construction of the house drains, these foul gases make their way into the dwelling; and, in other cases, the fermenting sewage percolates through the ground into some neighbouring well or water-course, polluting the water, and rendering it unfit for any dietetic purposes.

3. The third method in former use was, the discharge of sewage into a running stream or water-course, if such a stream existed sufficiently near the building. It is not necessary to add, that such a method is both illegal and unjustifiable on all moral and social grounds. To pollute the water which may be the source of supply for houses and cattle further down the stream, is an unpardonable offence, and the day is not far distant when the Rivers Pollution Act will be enforced, and very stringent measures will be taken to prevent the possibility of such a flagrant breach of the laws of health from being perpetrated. It must be conceded that none of the three devices which have been described, is scientific or objectionable; and it is a remarkable fact that, in spite of all the advances we have made, so little has yet been done to improve upon them. More than fifty years ago, Sir John Simon, in his first annual report on the sanitation of the City of London, said that "the cess-pool nuisance has been the slow growth of other less enlightened ages, and it may be taken as an axiom for the purpose of sanitary improvement, that every individual cess-pool is hurtful to its vicinage."

Sir Edwin Chadwick has said that "the immediate removal of putrescible excreta before fermentation commences (which is usually in one, two, or three days) is a primary point of sanitation."

We are all prepared to admit the truth of this axiom. We know that it is absolutely essential that all methods which countenance the collection or conservation of filth of any description in the vicinity of a dwelling must be condemned. The only question that remains is, What is the best way to carry these principles into practice?

A mistaken impression exists in the minds of a great many people, that the introduction of earth-closets is a solution of the sewage difficulty in rural districts; but, as a matter of fact, this has not been found to be the case. An analysis of the sewage of a town where the pail or midden system is in operation, shows that it does not differ materially from that of a water-closeted town. It has already been pointed out that the removal of solids from sewage does not purify it, and, even when earth closets or middens are adopted, the difficulty of the successful disposal of waste liquids is as great as ever. The waste water from sculleries and other similar fittings, is quite as offensive and

dangerous as the sewage from a water-closet; it is heavily charged with particles of animal and vegetable matter, which rapidly undergo putrefaction, and produce the same noxious gases and living organisms that are produced in water-closet sewage under similar conditions.

Whatever objections can be urged against the water-carriage system for sewage disposal, we are forced to the conclusion that at present it is the only practical alternative with which we are acquainted. All the efforts which have been made, from time to time, to supersede it have convinced unprejudiced people more and more that the advantages of this system outweigh immeasurably the disadvantages and objections. It would be useless however in this paper to enter into a discussion with reference to water-carriage for sewage, as compared with other systems.

As far as isolated buildings are concerned, the objections to water-carriage are immeasurably less forcible than in the case of towns and villages. The great obstacle to the successful treatment of water-carried sewage in large towns, is the enormous volume of storm-water which, during wet weather, is taken into the sewers. This can be completely overcome in single buildings, by the introduction of a separate system of drains for the removal of rain and surface-water, all of which can be safely discharged into any available water-course or open ditch, without injury to health; or the water may, in many instances with great advantage, be stored in suitable tanks for domestic use.

It is, however, always necessary that abundant provision should be made for an adequate water supply in connection with the sewage system, to ensure the copious flushing of both the water-closets and house-drains; but there are very few cases where this cannot be successfully achieved.

In discussing, therefore, the question of sewage disposal of single buildings, it may be reasonably assumed that we are always able to reduce the volume to such an extent that it can be handled and purified with far greater ease than the sewage of a town, where the separate system is not in operation.

The Twelfth Annual Report of the State Board of Health for Rhode Island, for the year ending December 31st, 1889, contains an exceedingly able and interesting article, by William Paul Gerrard, Civil Engineer, of New York City, on "The Disposal of Sewage of Isolated Country Houses." A description is furnished of the various methods which Mr. Gerrard has adopted with the best results in dealing with this problem, and it is very interesting to observe that the conclusions at which he arrives coincide exactly with the writer's own experience when attempting to solve the same problem in this country. Mr. Gerrard condemns, in strong language, the evils and dangers of the primitive cess-pools. He points out that the solid matter and grease which are retained, undergo a dangerous process of decomposition in the presence of moisture, heat, and darkness—all conditions known to be particularly favourable to the growth of disease germs; and he differentiates very clearly between these conditions and the well-known modern methods of sewage disposal by application to land.

It is greatly to be regretted the English literature on this subject is so very meagre, almost all the books which treat of sewage disposal refer exclusively to the cases of towns and villages, but very few writers have troubled themselves to give practical advice as regards single buildings. A great deal of useful information will, however, be found in the chapters contributed by Mr. Rogers Field, M. Inst. C.E., to the work entitled "Our Homes." Mr. Field gives some admirable examples, drawn from his own practice, of sewage treatment for country mansions. As far, however, as the writer is aware, very little has been done in Ireland in this direction, and it is for this reason that he

* By Mr. W. Kaye Parry. Read at Institution of Civil Engineers of Ireland on 6th inst.

ventures to bring under the notice of the Institution a few examples, to which reference will hereafter be made.

There is very little choice left to the engineer as regards the method to be adopted in purifying sewage in single buildings. Sewage purification may be accomplished either by some chemical system, or by the application of sewage to land. Chemical methods have not been generally very successful in the past, even in the case of towns and villages, but with single buildings the difficulties are almost insurmountable. Sewage disposal works have to be well constructed, and maintained under skilful management, if even a moderate amount of success is to be secured; and, except in the case of very large establishments, it is not usually practicable to carry on any chemical system scientifically and methodically. In all cases, therefore, if land be available, it is far better to apply the sewage to it than to embark upon sewage purification works. It is to be regretted that no other course is open, because it is often very difficult to obtain land of a suitable quality near a dwelling, in such a position that the liquid can be delivered on to it by gravitation.

For some years past the writer has, in conjunction with Mr. Walter E. Adeney, F.I.C., been pursuing the investigation of a simple method of sewage disposal which would be applicable to single buildings, and he ventures to hope that success may be before long achieved in this direction; but it is not his present purpose to discuss what may be done, but rather to describe what has been done, in connection with the subject before us.

There are three alternative ways in which sewage may be applied to land; these may be briefly described as—

1. Broad irrigation.
2. Intermittent downward filtration.
3. Sub-surface irrigation.

As we all know, in broad irrigation the sewage is allowed to flow over the surface of the land, without any special preparation being made for it, excepting a system of carriers which will ensure proper distribution. If the land be of a suitable character, and the quantity of sewage comparatively small, very good work can be done in this way. If the land be somewhat retentive, it can be greatly improved by a net-work of under drains connected with the nearest ditch or water-course, by which the purified effluent is carried off; but, with porous ground, these under drains are not required. Heavy clay lands are absolutely unsuitable for irrigation, for, if the subsoil be not porous, the ground will become saturated with stagnant sewage, and the reduction of the organic compounds takes place too slowly to achieve success.

The second method is that of intermittent downward filtration.

In this case, a small tract of land is levelled into plots or terraces, and the liquid is discharged in turn on to each plot in such a manner as to flood the whole area, and to distribute the liquid evenly over the entire surface. It is then allowed to filter through the ground until it reaches the under drains, which should always be provided in works of this character, and by which the purified effluent flows away into the nearest water-course. The plot which has been treated is then allowed an interval of rest, during which the other plots are similarly treated in succession. In this way the soil is completely aerated before it is again called upon to perform its functions. The putrefaction which takes place when liquid sewage is confined in an under-ground cesspool, does not occur when the fresh liquid is treated on land by this system, but the healthy bacteria are cultivated and multiplied in the pores of the soil, and through their agency the organic compounds are reduced to harmless inorganic constituents. It was formerly thought that the purification under these conditions was due to what was called the nitrifying action of the soil, but recent investigations have shown that this nitrification does not depend

so much upon the chemical character of the soil as upon its physical condition. In other words, the purification is probably accomplished by the micro-organisms which are produced and multiplied in the pores of the land. These organisms could not live or develop without an abundant supply of oxygen, nor can their healthy action be maintained at any great distance from the surface. We can, therefore, see how great a difference exists between the changes which take place in stagnant water fermenting in a foul cesspool, and fresh sewage filtering through suitable land, pregnant with organic life, waiting to perform its useful function in converting dangerous liquids into harmless ones.

The third modification of land treatment consists in the distribution of the liquid by sub-surface irrigation. It is absolutely necessary in this case that the solids and glutinous particles should be first removed, for, if this be not done, the subsoil drains will soon become clogged. A small intercepting chamber must be constructed for this purpose, through which the sewage is drained, and from which the solids should be removed daily. Although it is very desirable that this point should be attended to, it is quite possible to construct the intercepting chamber so that it will contain a considerable quantity of sludge, and need only be emptied at comparatively long intervals; but the cleaning of this chamber becomes far more difficult if it be only occasionally attended to, whereas, if it be done two or three times a week, no nuisance is created, and the labour is very small. The solids so collected may with advantage be mixed with dry earth, kept in a suitable position near the chamber, which will absorb a great quantity of sludge, and when it is saturated it can be carted away and used as manure with good results.

The liquid in this system is conducted into a number of field drains, formed of agricultural pipes and broken stones, laid at about a depth of 12 in. under the surface, at a considerable distance apart, which will vary with the character of the land. They should be constructed with a very slight fall, and their direction will depend upon the general contour of the land, always bearing in mind that they must occupy such a position that the liquid will slowly gravitate through the network of pipes, and, escaping through the open joints, will permeate the entire area of ground devoted to the purpose. The land may either be used for meadow or for pasture, but in this instance it cannot very well be tilled to any great depth, as the sub-surface drains are in the way, and, if they are kept at a sufficient depth to permit of ploughing, the amount of aeration which is required will not be secured.

It sometimes happens that the building is so situated with reference to the surrounding lands, that it is not possible to dispose of the sewage by gravitation, and it must be frankly admitted that the difficulties are greatly increased in these cases. Pumping must then be resorted to. Where water-power is available, a small turbine can be erected to drive the pump, and in some instances a windmill might be advantageously employed, otherwise it becomes necessary to provide for the erection of pumping machinery, driven either by a steam engine or other method. Pumping sewage presents some difficulties, arising from the nature of the liquid to be dealt with. The suspended matter and the miscellaneous debris which finds its way into drains, is very liable to choke the pumps, and special precautions are necessary to prevent this.

(To be continued.)

CHICAGO.—Harper Bros., Scribner and Sons, and the Century Company have agreed to exhibit at the Fair illustrations showing the history of transportation in all countries. Chief Smith expects to secure similar exhibits from foreign countries and from other publishers in this country. The exhibit will include reproductions of lithographs, original drawings, and photographs.

CLASSICAL NOTICES OF IRELAND AND OF BRITAIN.

UNTIL the year 55, before the Christian era, little had been known, to the Greeks and Romans, regarding the manners, usages, and tribal divisions of the Britons. Then the invasion of Julius Cæsar,¹ and the subsequent writing of his celebrated Commentaries,² add much to our information on this subject.³

Speaking of people dwelling on the south-eastern and maritime parts of the present England, Cæsar derived their descent from the Belgæ.⁴ Diodorus Siculus, Tacitus,⁵ Dion Cassius,⁶ and other ancient writers, agree as to their Belgic origin. On such a subject, and treating about the outer barbarians, for the most part, the Greek and Roman classic authors are poor authorities,⁷ when relating the earliest history and traditions of their subject people. While imperfectly recording the early tribal or national life of these, at first encountered as foes, and afterwards reduced to an enforced obedience, the conquerors have generally misunderstood that information conveyed to them by the indigenous people, with that fuller knowledge of native interpretation and feeling necessary to estimate correctly their former condition.

Many curious things are related by Diodorus Siculus⁸ regarding the Iernian or Britannic Islands.⁹

After the birth of Christ, our information about Britain becomes more extended, through allusions made thereto by Pomponius Mela.¹⁰ The second Pliny,¹¹ an earnest investigator of natural history and of geographic science, has somewhat increased our information in reference to Britain.¹²

It is quite incorrect to state, as has been done by a late writer, that Ireland, during the centuries that elapsed between the Christian era and St. Patrick, had been in a state of utter and hopeless barbarism; or that such an inference could be drawn from its own annals, as also from every allusion made to this island by any of the classical authors.¹³

Caius Julius Solinus¹⁴ not only presents an account of Britain, but also of Hibernia,¹⁵ of Caledonia, of the Hebudan and Oraden Islands. He treats, likewise, about the

1 This remarkable man was born at Rome, the 12th of the month, Quintilis, A.D. 653. After becoming the first Roman Emperor, he was assassinated in the fifty-sixth year of his age, and forty-three years before the Christian era.

2 See "De Bello Gallico," lib. iv., v.

3 The late Emperor of the French, Napoleon III., has produced a most interesting and learned "Histoire de Jules Cæsar," in two large 8vo volumes; but, this work only brings his life events to the passage of the Rubicon. A large 4to atlas of maps and of plates serves to illustrate the ancient topography of places mentioned in reference to his expedition. Paris, 1865.

4 Speaking of Britain and of its colonization, he observes, "Maritima pars ab iis qui, prædæ ac belli inferendi causa, ex Belgis transierant, qui omnes fere iis nominibus civitatum appellantur, quibus orti ex civitatibus eo pervenerunt."—"De Bello Gallico," lib. v., sect. 16.

5 See "Vita Agricola," sect. xi.

6 Dion Cassius flourished A.D. 230. See "Historia Romana," lib. xxxix., sect. 50, 51, 53; lib. xl., sect. 1, 2, 3, 4; lib. xli., sect. 30, 32, 34; lib. xlii., sect. 42, 43, 49; lib. xliii., sect. 28; lib. l., sect. 24; lib. lii., sect. 7, 22, 25; lib. lv., sect. 23; lib. lvi., sect. 21, 25; lib. lx., sect. 19, 20, 21, 22, 23, 30. Editio Reimari, Hamburgi, 1750.

7 See Whitaker's "History of Manchester," vol. i. Corrections, p. 152.

8 He lived about the year 44 before Christ.

9 See "Bibliotheca Historica," lib. i., cap. 4; lib. iii., cap. 38; and lib. v., cap. 21, 22. Ed. Dindorfii, Lipsiæ, 1828.

10 He flourished A.D. 45. See "De Situ Orbis," lib. i., cap. 3; lib. ii., cap. 6; lib. iii., cap. 6. Ed. Gronovii, Lugd. Batav., 1748.

11 He lost his life A.D. 79.

12 See his "Historia Naturalis," lib. ii., sect. 77, 99; lib. iii., sect. 20; lib. iv., sect. 30, 33, 36; lib. vii., sect. 57; lib. ix., sect. 57, 79; lib. x., sect. 29; lib. xv., sect. 30; lib. xvi., sect. 76; lib. xvii., sect. 4; lib. xxii., sect. 2; lib. xxv., sect. 6; lib. xxvii., sect. 1; lib. xxx., sect. 3, 4; lib. xxxii., sect. 21; lib. xxxiii., sect. 6, 16; lib. xxxiv., 49; lib. xxxvii., sect. 11. Ed. Hurdian, Paris, 1723.

13 See Mr. James Fergusson's "Rude Stone Monuments in all Countries," chap. v., p. 235.

14 He flourished about A.D. 80, as generally believed.

distant Thyle or Thylen. Geographically speaking, the whole statement abounds with inaccuracies; but, the writer details many curious rumours, especially in reference to Hibernia.¹⁵

The geographer Clandius Ptolemy¹⁶ quotes more ancient authorities. He was one of the earliest Continental writers known who gave a detailed, but still inaccurate, description of the two Britannic Islands, Ihernia and Albion.¹⁷

The Greek Poet, Dionysius Periegetes,¹⁸ places the two Britannic Islands, Ihernia and Albion, opposite the mouths of the Rhine.¹⁹

The Greek writers, Marcianus Heracleota²⁰ and Agathemer,²¹ with a Latin "Cosmographia," composed about the end of the fourth century, relate many curious particulars of both those islands.²²

Festus Rufus Avienus,²³ a Latin poet,²⁴ treats about the maritime discoveries of Carthage in the fourth century of our Christian era. Following the account of Hamilcar²⁵ the Carthaginian, he writes concerning that sacred island²⁶ which was inhabited by the Hiberni, and which lay near to the island of Albion. He also alludes to the plains of the Britons and to the distant Thule. By various modern writers this has been identified with Iceland; but, it is not at all probable, that the latter island had been reached at this time by any navigator from the more southern countries of Europe.

The most valuable of all the early topographical descriptions of Britain is that called the "Itinerarium Antonini Augusti,"²⁷ by an anonymous writer;²⁸ also the fragment of Pentinger's Map²⁹ relative to Britain, and the "Notitiæ Utriusque Imperii."³⁰ Besides these, we have at a later period an interesting account of Britain in the anonymous Geographer of Ravenna,³¹ who is presumed to have flourished in the seventh century.³²

15 See "Polyhistoriæ," cap. xxii., xxiii., liii. Ed. Salmasii. Traject ad Rhenum, A.D. 1689.

16 He flourished A.D. 120.

17 See "Geographiæ," lib. i., cap. 7, 11, 15; lib. ii., cap. 1, 2, 3; lib. vii., cap. 5, pp. 214, 215; lib. viii., cap. 2, pp. 223, 224. Apud Bertium, Lugd. Batav., 1618. Also the "Syntaxis Mathematicæ," tom. i., lib. ii., p. 85. Apud Halmia, Paris, 1813.

18 He flourished, as is generally supposed, towards the close of the second century of the Christian era.

19 See "Orbis Periegesis," versibus 253 et seq., 261 et seq. Apud Hudson, "Geographi Minores," Tomus iv., p. 50, Oxonii, 1712.

20 He is thought to have lived in the third century. See his "Periplus," lib. i., pp. 9, 35, 48, 49, 57. Apud Hudson, "Geographi Minores," tomus i. Ibid.

21 He is supposed to have written in the third century. See "Geographiæ," lib. ii., cap. 4, 8, 14. Ibid.

22 An edition of this work has been issued by Gronovius, Lugd. Batav., 1722, pp. 711, 728, 729. This work is composed, with excerpts from Julius Honorius and from Orosius.

23 He flourished about the latter end of the fourth century after Christ.

24 Only fragments of his geographical poem "Descriptio Orbis Terræ," have been preserved. They were first published A.D. 1634. These were included in Wernsdorff's "Poetæ Latini Minores." Helmstadæ, 1791, tome v.

25 He flourished in the sixth century before Christ.

26 "Hæc inter undas multa cespitem jacet, Eamque late gens Hibernorum colit. Propinquæ rursus Insula Albionum patet."

— "Oræ Maritimæ."

27 It is otherwise known as the "Iter Britannicarum."

See the Editio Wesselingii, Amstædæ, 1735, p. 463.

28 Some think he composed it in the second, and others in the beginning of the fourth century.

29 This is thought to have been traced about the close of the fourth century. See Editio Mannerti, Lipsiæ, 1824.

30 It is supposed, that this account had been drawn up in the beginning of the fifth century. See it in Jean-Georges Grævius "Thesaurus Antiquitatum Romanorum," tomus vii.

In Partibus Orientis, cap. iv., cxlv. In Partibus Occidentis, cap. i., ii., xix., xxvii., xxxiv., xli., lxxviii., lxxi., lxxii., lxxvii.

31 See the Editio Gronovius, Lugd. Batav., 1696. The London edition of T. Gale, 1709, has various readings of places named. See lib. i., cap. iii.; lib. v., cap. 31, 32.

32 For further particulars in reference to the foregoing authorities, the reader is referred to that valuable work "Monumenta Historica Britannica, or Materials for the History of Britain from the Earliest Period," vol. i. Edited by Henry Petrie, Esq., F.S.A., and Rev. John Sharpe, B.A. London, 1848, fol. See the introductory part "ex Scripturibus Græcis atque Latinis Excerpta de Britannia," with notes, pp. i. to cxx. Very admirable and learned illustrations of Ptolemy, and of those works just mentioned in the text, as having reference to Britain, will be found in "Britannia Romana, or the Roman Antiquities of Britain." By John Horsley, M.A. and F.R.S. London, 1772, fol. See book iii., 263 to 520.

Tacitus³³ increased our information regarding the Iernian Britannic Islands, and to his account the student of their history must direct attention. His reference to Ireland shows, that merchants and navigators had a knowledge of its harbours greater than that possessed by them of those in the adjoining larger Island of Britain; while it appears, the commercial importance of Hibernia was appreciated in a higher degree of value,³⁴ so far as intercourse and traffic were concerned.

In manners, customs, and dispositions, the inhabitants differed little from their neighbours in Britain; while the soil and climate were very much alike in both countries. It is worth while remarking, how inaccurately had the Romans gauged the situation of Hibernia, when it is described as lying between Britannia and Hispania.³⁵

(To be continued.)

CHURCH OF ST. CARTHAGH, LISMORE.

OUR illustration of this date is a view of the Church of St. Carthagh, Lismore, taken from the garden of the Parochial House. The building was commenced in 1881, Mr. Redmond, of Wexford, being the contractor; the design was furnished by Mr. W. G. Doolin, M.A., architect, of this city. The building was carried out in two sections: the first portion comprising the tower, nave, aisles, and transepts; the second section included the chancel, chapels, and the sacristy, which were built in 1885, Mr. Creedon, of Fermoy, being the contractor; the furnishing and decoration have progressed from time to time up till the present, the high altar and organ gallery being now in hands. Some very excellent carving at the nave arcade and chancel has recently been executed by Mr. J. A. O'Connell, sculptor, of Cork. The stained glass of the west window, and windows of chancel and chapels, are admirable examples of the work of Messrs. Cox, Buckley, and Co., of London and Youghal. The leading dimensions of the church are: total length, 144 ft.; width across transepts, 90 ft.; width internally, nave and aisles, 55 ft. The walls are built of a deep red sandstone, with dressings of blue limestone. The tower measures 115 ft. high. The total cost up to the present has been about £13,000. Our illustration is from a photograph by the architect. We published the plan and a view of the west front in our issue for January 15th, 1883.

THE HISTORY OF THE CHURCH AND PARISH OF ST. MICHAEL THE ARCHANGEL, DUBLIN.

(Continued from page 85.)

PREBENDARIES OF ST. MICHAEL—(Continued). (1541-1876.)

Collected from Cotton's "Fasti," the Vestry-books of St. Michael's, and other authentic sources.

1761. JAMES ROBINSON, M.A.

Elected 3rd March, 1761; installed same day. He held this Prebend for only two months, and then became Prebendary of St. John's. He graduated at Trin. Coll., Dub., B.A. Vern. 1719; M.A. Æst. 1722, and D.D. Vern. 1762.

33 See "Annalium," lib. xii., cap. xxxi., xxxii., xxxiii., xxxiv., xxxv., xxxvi., xxxvii., xxxviii., xxxix., xl.; also "Historiarum," lib. iii., cap. xlv., xlv.

34 See "Vita Agricola," cap. xxiv.

35 Tacitus adds, however, "et Gallico quoque mari obportuna," &c. Ibid.

Dr. Robinson was appointed Chaplain to the King's Hospital, Oxmantown, in 1736; Stearne Catechist, 12th March, 1761; and Chancellor of Kildare in 1771, which dignity he resigned immediately afterwards. He died at his residence 30 Bolton-street, on the 26th June, 1775, and was buried in St. Michael's, "under the seat between the window in High-street and the Churchwardens' seat." (See IRISH BUILDER for 15th Dec., 1891.)

The clergy present at the election of Dr. Robinson as Stearne Catechist were:— Francis Corbet, Dean of St. Patrick's, and Curate of St. Nicholas Without. John Ellis, Vicar of St. Catherine's. Edwd. Ledwich, Prebendary of St. MICHAEL'S. R. C. Cobb, Curate of St. Bridget's. William Tisdall, Vicar of St. James's. Allan Morgan, Prebendary of St. Audoen's. John Wynne, Chantor, St. Patrick's. Wm. Fletcher, Rector of St. Mary's. Oliver Brady, Rector of St. Paul's. Wm. Brown, Vicar of St. Andrew's. Arthur Mahon, Curate of St. Nicholas Within. John Antrobus, Rector of St. Michan's. P. Hoby, Rector of St. Werburgh's. Theophilus Brocas, Curate of St. Luke's.

1761. BENJAMIN BARRINGTON, D.D.

Elected 4th of May, 1761; resigned four days afterwards.

Dr. Barrington, son of Benjamin Barrington, Esq., and his wife Margaret, daughter of William Domville, Esq., was educated in Trin. Coll. Dub., where he graduated B.A. Vern. 1730; M.A. Æst. 1733; LL.B. and LL.D., Æst. 1747. He was ordained Priest, in Dublin, 5th June, 1735; in 1741 he was made Chancellor of Down, collated 24th March, which he resigned in 1747, and became Prebendary of Tynan, which he resigned in 1759 for the Rectory of Armagh; and in 1764 he was appointed Dean of Armagh. In 1768 he exchanged his Deanery and Rectory with Dr. Hugh Hamilton for the Vicarage of St. Ann's, Dublin, to which he was collated, 23rd April; and in 1773 he exchanged St. Ann's for the Prebend of Rath-michael, in St. Patrick's, with Dr. Deland, F.T.C.D.; he was also Rector of Bray.

Upon the death of his uncle, Sir Thomas Domville, bart., of Templeogue, he inherited his Loughlinstown estate, and took the name of Domville. In April, 1768, he married his cousin, Anna Maria Pocklington, by whom he had no issue. In 1745 he is entered in St. Bride's Preachers' Book as Benjamin Barrington; in 1766 as Dr. Barrington, Dean of Armagh; and in 1768 as Dr. Domville.

Dr. Domville published a sermon preached by him before the House of Commons, in St. Andrew's Church, Dublin, on Tuesday, 5th Nov., 1745, on the text, Haggai, i., 5, he being at that time Chancellor of Down. He died at his house in Merrion-street, Dublin, on the 19th Oct., 1774, and was buried in St. Bride's churchyard, on the 27th of that month, beside his father and mother. On a slab fixed in the western wall of the Vestry-room of St. Bride's Church, is sculptured a shield bearing the arms of Domville and Barrington, quarterly; impaling Pocklington, with the following inscription:—

"Here lie interred the Bodies of Benjamin Barrington, Esq., who died Decr. 1743 aged 61.

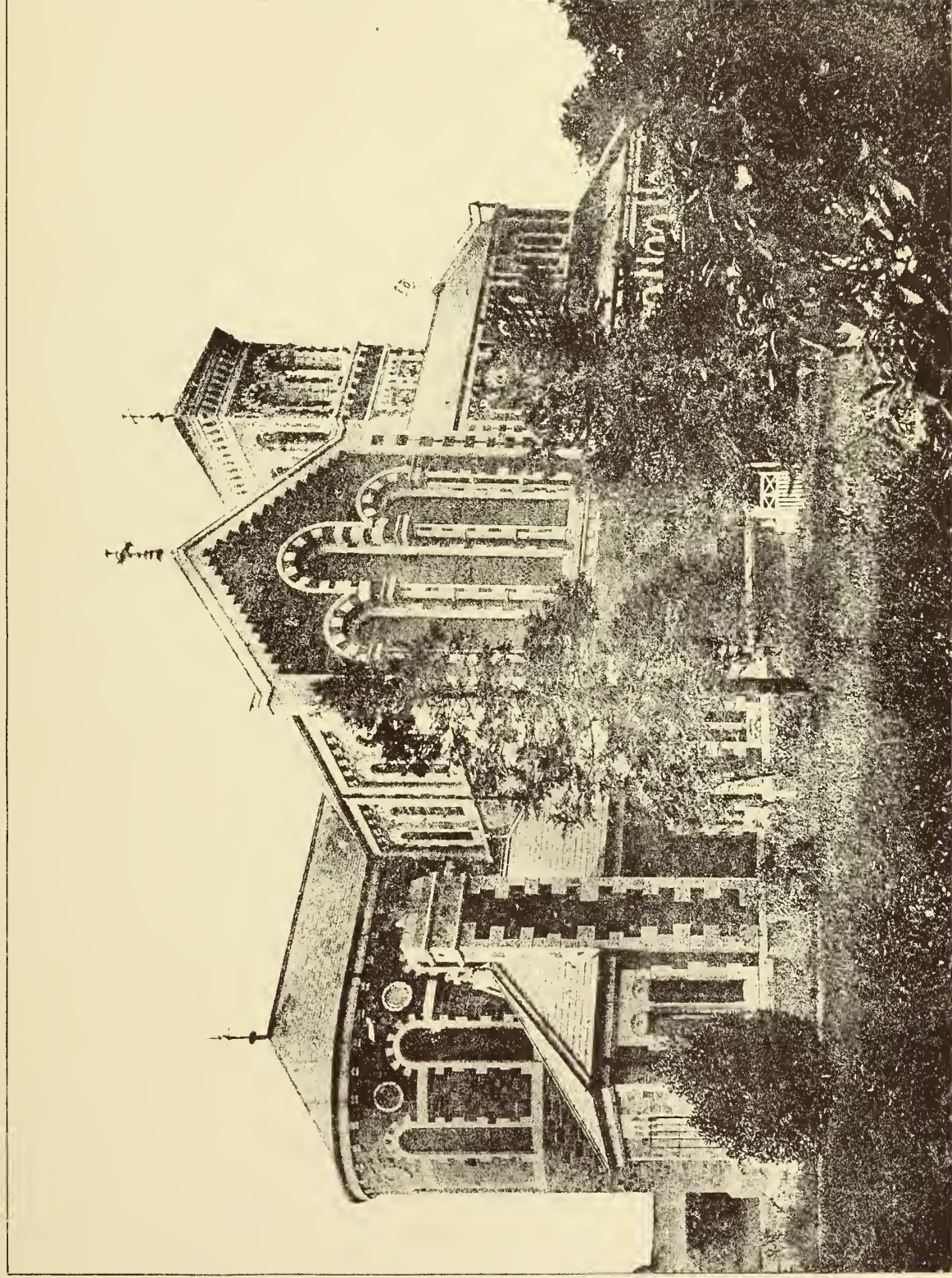
Margaret, his wife, daughter of Will. Domville, Esq., Who died Feb. 11, 1768, aged 81.

The Revnd Benjn. Domville, D.D., son of the Above mentioned Benjn & Margt, Heir at Law And Inheritor of the Estates of the Late Willm. Domville, Esq., of Loughlinstown, in the County of Dublin, who died on the 19th day Of October, 1774, in the 64th year of his age."

1761-1769. HENRY MERCIER, D.D.

Henry Mercier, Sch. T.C.D., 1735; B.A. Vern. 1736; M.A. Æst. 1739; Fellow 1740; B.D. Vern. 1747; LL.D. 1750; D.D. Vern. 1755; was elected May 15th, admitted June 13th, installed June 15th. On the 8th Oct., 1767, he was nominated to the College Rectory of Tullynaughish, diocese of Raphoe, in succession to Dr. John Forster; and had a faculty enabling him to hold that benefice along with the Prebend, 2nd Feb., 1767.

THE IRISH BUILDER, APRIL 15, 1892.



✠ CHURCH OF ST. CARTHAGH, ✠ LISMORE. ✠

MR. W. G. DOOLIN, M.A., ARCHT.

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Pue thus notices Dr. Mercier's appointment to St. Michael's, under date, 22nd May, 1761:—"We hear that the Rev. Henry Mercier, one of the Junior Fellows of Trin. Coll., will be presented to the Prebend of St. Michael's Church, which being under the value of £10 per an. in the King's Books, can be held with his Fellowship according to the statutes of the University." Dr. Mercier died in June, 1769, at Southampton, in England, where he had gone for the benefit of his health. His death had been prematurely announced in the Dublin newspapers.

1769-1771. ROBERT LAW, D.D.

Robert Law, Sch. T.C.D., 1752; B.A. *Vern.* 1752; Fellow, 1754; M.A. *Æst.* 1755; B.D. *Æst.* 1762; D.D. *Vern.* 1767; was admitted Deacon, in St. Nicholas Within, 21st Dec., 1755, by Robert [Downes], Bishop of Raphoe; ordained Priest, 27th Dec., 1755, in St. MICHAEL'S by John [Garnett], Bishop of Ferns and Leighlin. He became Rector of Aughalurcher, diocese of Clogher, on the Presentation of T.C.D., in 1766, in succession to Rev. Richard Radcliff; and three years later was elected to this Prebend, Oct. 7th; admitted the same day, and installed Oct. 18th. He resigned in Dec., 1771, and was presented, 3rd Jan., 1782, to the Rectory of St. Mary's, Dublin, by the Dean and Chapter of the Holy Trinity, and held that benefice with his previous one of Aughalurcher, by faculty, dated 2nd January, 1772. He also held the Southwell Lectureship at St. Werburgh's, on the death of Dr. Hudson. Dr. Law died at his residence in Henry-street, 7th June, 1789, aged 58, and was buried at St. Mary's, where the following inscription may be seen near the eastern end of the north gallery, on a monument erected to his memory by his parishioners:—

Sacred to the Memory of the Rev. ROBERT LAW, D.D., Late Rector of the Parish of St. Mary, Who departed this life June 11th, 1789.

The parishioners of St. Mary's caused this monument to be erected, in testimony of the high veneration and esteem in which they ever held their truly excellent and beloved Pastor; whose unremitting attention, during a period of seventeen years, to the arduous and important offices of his station, whose faithful discharge of his various duties, and whose constant, tender, and pious zeal, for their temporal and eternal welfare, justly endeared him to the grateful affections of his whole flock; and whose afflicting loss, alas! will be long severely felt by the poor, deeply regretted by the rich, and sincerely lamented by all.

1771-1775. ROBERT KING, LL.D.

Dr. King was the eldest son of Rev. James King, D.D., Incumbent of St. Bride's, 1730, and his wife Margaret, *dau.* of Ald. Thomas Somerville, and grandson of Rev. Thomas King, Prebendary of Swords (nephew of Archbishop Wm. King). He was educated in Trin. Coll., Dublin, where he graduated B.A. *Vern.* 1741, and M.A. *Æst.* 1744; and was ordained Priest in St. Patrick's Cathedral, Dublin, on Sunday, 20th Sept., 1747, by Archbishop Cobbe. He was Assistant Librarian, Marsh's Library, 1755; Prebendary of Tipperkevin, 1759; of St. MICHAEL'S, 1769; St. John's, 1775; St. Michan's, 1781; and Dean of Kildare, 1782. He *m.* (1st) 30th Aug., 1759, the eldest *dau.* of the Rt. Rev. Thomas Salmon, Bishop of Leighlin and Ferns. She *d.* 25th Dec. same year, of small-pox. He *m.* (2ndly) 30th Sept., 1761, Mary, *dau.* of Rev. James Belsham, of Bedford, by whom he had issue two sons and two *daus.* Dr. King *d.* in Oct., 1787.

1775-1782. DIXIE BLUNDELL, D.D.

Formerly a Scholar of Trinity College; elected Aug. 4th; installed Aug. 7th. In 1782 he exchanged St. Michael's for St. John's.

Dixie Blundell (Blondell or Blunden) was eldest son of Ralph Blundell, of the City of Dublin, alderman, and Jane, *dau.* of Dixie Coddington, of Holme Patrick, Co. Dublin, Esq. He was educated in Trin. Coll. Dub., where he obtained Scholarship in 1744; graduated B.A., *Vern.* 1746; M.A. *Æst.* 1749. At the Commencements held *Æstivis*, 1765, he became B.D. and D.D., *speciali gratia*. He was ordained Deacon, at Crumlin, near Dublin, on 22nd Sept., 1751, by Charles Cobbe, Archbishop of that See. In 1754, we find him Curate of St. Anne's, Dublin,

and ten years later he was presented by the Crown to the Rectory of Kilskeer, Dio. of Meath. On 19th Nov., 1767, a faculty issued enabling him to hold this last preferment with the union of Auhgrim, in the Diocese of Clonfert. On April 12th, 1771, he became Precentor of Kilmacduagh and Prebendary of Kilquane, Clonfert. These last preferments he resigned in 1782, as well as Kilskeer in 1769, in which latter year he was elected, 22nd May, Rector of St. Paul's, Dublin, in succession to Dr. Brabazon Disney, having obtained a faculty to hold Auhgrim with St. Paul's. In 1775 he was elected Prebendary of St. MICHAEL'S, in the Cathedral of the Holy Trinity, "commonly called Christ Church," Dublin. In 1782 he became Prebendary of St. John's; and in 1787, Prebendary of St. Michan's, in this cathedral.

On the death of Dr. Robert Law, 1789, Dr. Blundell was appointed his successor at St. Mary's, Dublin. (See notice above.) He seems to have resigned the benefice of Auhgrim on his appointment in 1774 to the Rectory of Kinawley, Diocese of Kilmore. He held Kinawley also with St. Michan's and St. Mary's, and in addition had, in 1782, the Third Canonry of Kildare; and in 1787 he was elected Dean of Kildare; he was also Chaplain to the Hon. the City of Dublin, for the long period of 46 years. Dr. Blundell *m.*, 15th July, 1760, Elizabeth, *dau.* of Alderman Ogle, of Drogheda, by whom he had issue. He died on the 2nd Nov., 1802, aged 82, and was buried in the Tower of St. Michan's Church, Oxmantown, near the grave of his father and mother, where there is a monument to his memory, with the following inscription:—

"Sacred to the Memory of the Revd. Dixie Blundell, D.D., late Dean of Kildare and Rector of the Parish of St. Mary, Dublin. How he conducted himself in that Parish during a period of nineteen years is still fresh in the Memory of his grateful Parishioners. Indefatigable in the faithful discharge of the sacred duties of his important station, active in the unremitting attention to their temporal concerns public and private; he consulted with uniform care their future happiness and present interest; his religion was cheerful, gentle, and rational, not gloomy, discontented, nor unsocial; his zeal was firm, mild, and temperate; and in his social intercourse, no one left him that was not delighted, instructed, and improved. After a tedious (sic) and painful illness which he supported with resignation such as only true religion can inspire, he departed this life in the 83rd year of his age, on the 2nd of November, 1802, revered, esteemed, and universally beloved."

Two other stones in the same place have these inscriptions:—

"Jane Carden, *dau.* of Very Revd. Dr. Blundell, Dean of Kildare, departed this life 22 Jan., 1837, in the 73rd year of her age."

"Here lyeth the Body of Mr. Daniel Blundell, who departed this life the 31st January, 1735, aged 70. Here also lyeth the Body of Ralph Blundell, late an Alderman of the City of Dublin, and Jane Coddington, his wife."

"The Freedom of the City [of Dublin] was voted to the Rt. Rev. Dr. Denison, Cumberland, Lord Bishop of Clonfert and Kilmacduagh, to be presented to his Lordship in a gold box, to express the high esteem which this City entertains for his Lordship both for his general regard for this Kingdom, and for having lately conferred an Ecclesiastical benefice on their Chaplain."—(*Pue*, Jan, 1768.)

"Dean Blundell resigned the City Chaplaincy, which he held 46 years. It has been conferred on the Rev. Wm. Blundell, his son, at an Assembly on yesterday."—(*Saunders's News-Letter*, Saturday, 26th April, 1800.)

1782-1787. THOMAS ROBINSON, D.D.

Rev. Thomas Robinson signs Vestry-book from 1761 to 1772 as Curate of St. Michael's. He was elected Prebendary July 1st; installed July 19th. In 1787 he became Prebendary of St. John's.

Thomas Robinson, D.D., born 1736, was son of James Robinson, D.D., a former Prebendary of St. MICHAEL'S (see *ante*). He was educated at Trinity College, Dublin, and obtained Scholarship in 1752; B.A. *Vern.* 1754; M.A. *Vern.* 1758; B.D. and D.D. *Vern.* 1776. He was Curate of St. Michael's, Dublin, in 1761, and subsequently of St. John's. In 1769 he was appointed Perpetual Curate of Monkstown, and in 1771

(on the resignation of his father), Chancellor of Kildare. In 1775 he succeeded Dr. Blundell at St. Paul's, and on 21st August of that year obtained a faculty to hold that Rectory with Ardcolme (Ferns). In 1787 he was appointed Third Canon of Kildare, when he resigned the Chancellorship of that cathedral. Dr. Robinson was elected Prebendary of St. MICHAEL'S in 1782, which he resigned in 1787 for that of St. John's; and in 1789 he became Prebendary of St. Michan's, still holding Ardcolme. He resided in Dorset-street, Dublin, and died in December 1796. ["Died in Bolton-street the Rev. Doctor Thomas Robinson, aged 61 years, Prebendary of St. Michan's, universally esteemed for his abundant charity and other christian virtues."—*Walker's Hib. Mag.*, Jan., 1797.]

Addendum.

The following inscription is placed on a tablet in the south gallery of St. Mary's Church, to the memory of Rev. Wm. Fletcher. (See IRISH BUILDER for 1st inst.):—

In Memory of the Rev. WILLIAM FLETCHER, LL.D., Dean of Kildare and Rector of this Parish. A benevolent, upright, and amiable man; And a pious, able, and exemplary clergyman. He departed Decr. XXIII., MDCCCLXXI., aged LXXI.

In the same vault

Lie the remains of HONORA FLETCHER, A wife worthy of so excellent a Christian Minister, She followed him to a better life, June XXIII., MDCCCLXXII., aged LXXIV.

(To be continued.)

THE LATE MR. D. PRICE'S COLLECTION OF PICTURES.

THE fine collection of modern pictures, the property of the late Mr. David Price, was on the 2nd inst. disposed of by Messrs. Christie, Manson, and Woods, London. The works had been on view for several days previous to the sale, and had attracted much attention. The principal prices obtained were:—A Spanish Volunteer, by J. Philip, 730gs.; A View in Normandy, of a woody landscape, by J. Stark, 650; The Thames at Strealey, by Vicat Cole, 690; Dutch Fishing Craft, Katwyk, North Holland, by E. W. Cooke, 370; Mountain Streams, by T. Creswick, 210; Richmond, Yorkshire, a picture after Turner's style, by the same artist, 1,250; an original finished sketch for T. Fued's engraved work, From Dawn to Sunset, 400; another work by the same artist, The Mother w' her Needle and her Shears, Gars Auld Claes Look Amaist as Weel's the New, 590; The Railway Station, a small replica of W. P. Frith's well-known engraved picture, 310. Next followed a number of works by J. C. Hook, all of which had been purchased direct from the artist. They realised from 350 to 1,700gs. The Bezestein Bazaar, of El Kban Khalil, by J. F. Lewis, 1,090; Lilium Auratum, by the same artist, 800. Next followed four works by J. Linnell, sen., which sold as under:—Welsh Drovers Crossing the Common, an evening effect after rain, 1,000; The Haystack, 600; Opening the Gate, Child's-hill, Hampstead, 760; and The Timber Waggon, exhibited in 1852, 3,100. Diana or Christ, a replica of the exhibited picture, by E. Long, fetched 2,500; Apple Blossoms, exhibited at the Royal Academy under the title of Spring, by Sir J. Milla's, 660; The Sound of Many Waters, a misty Scotch landscape, painted by the same artist, 2,911; and A Waterfall in Wales, by W. Müller, 800. A fine View in Surrey, by P. Nasmyth, for which the late owner gave 600, sold for 2,500gs.; The Sisters, by J. Pettie, only sold for 160gs.; El Cortejo, by J. Phillip, 660. Next came a few works by P. F. Poole, which cannot be considered as being well sold. Lorenzo and Jessica at Belmont brought 100, and Gniderius and Arrivagus Lamenting the Supposed Death of Imogen, for which the painter was paid 900gs., only realised 65. Two works by L. Alma Tadema sold as follows:—The Parthenon at Athens, 570; and Fredegonda went for 880. A fine work by Turner, entitled Modern Italy, which had been twice previously sold in the Novar collection in 1867 and 1878, and for which Mr. Price gave 5,000, was eventually sold to Mr. Laurie, of Glasgow, for 5,200gs. The Bride's Toilet on the Wedding Day, by Sir D. Wilkie, produced 700; and then came four works by Rosa Bonheur; *Laudais Peasants Returning Home*, sold for 1,550; *The Alarm—Deer*, early morning, 1,050; *Changing Pastures*, the well-known engraved work, 3,000; and *Cattle in the Highlands*, 1,700. A portrait of Rosa Bonheur, by E. Dubufe, with her arm on the neck of a bull, painted by herself, fetched 750; and Regnard in his studio, painted by J. L. E. Meissonier for the Marquis de Lambertze, sold for 1,800.

BYZANTINE ARCHITECTURE.*

In the author's introductory remarks he said architects were now interrogating every architectural monument to discover how building had been converted into architecture in every country in the world, so that they might make the step forward towards a style characteristic of modern civilisation. In Byzantine architecture was to be seen the gradual adaptation of the plans of antique buildings to the ritual of a new faith; the universal adoption of the dome, and the successive devices by which its equilibrium was at last attained; and the new æsthetic problems solved. In studying Byzantine architecture, two difficulties were encountered: the date of its beginning, and its chronological sequence. He had taken the dedication of Constantinople (330 A.D.) as the first, although the buildings erected then were of Roman architecture and probably designed by Roman architects. Having referred to the buildings erected in the time of Constantine, the author said the greatest benefit the Emperor had conferred on architecture, beyond his buildings, was to enact that all persons in North Africa and Italy should be freed from taxes if they allowed their sons of eighteen years of age and of liberal education to be brought up as architects. As to the sequence in date of Byzantine buildings little could be traced from Constantine's death to the days of Justinian, because the study of Byzantine architecture had been neglected; but if masterpieces were again to be erected old ones must be studied, and one masterpiece of the world was the Sta. Sophia of Constantinople. From a description, by Eusebius of Cæsarea, of an early Christian church, it would be seen that the churches originally faced east and the priest faced the congregation; the right and left sides of the altar were the priests' right and left, the right or south aisle being for men, and the left or north for women. In the fifth century the orientation was reversed, the priest standing with his back to the congregation and facing east, although the sides of the altar remained as before. The pure basilica type, as called by the Byzantines, in the form of a circus, did not, however, find favour except in Italy and the West. When domes on pendentives were first used was not known; M. Dieulafoy and others had discovered that the ancient Persians used egg-shaped domes over square chambers, carried by a pendentive pierced by a squinch; and M. Choisy was of opinion that those found at Serbistan, Firouzabad, and Ferachbad were of the days of the Achæmenides (about 800 B.C.). A pendentive, not quite regular in form, was found at Caracalla's Baths (211 A.D.), and mentioned by Ware in his tracts on vaults in 1822. It was generally agreed, however, that the first great dome on four pendentives was that of the great Sta. Sophia. Next to Sta. Sophia, the most important building, for its influence, was the Church of the Apostles at Constantinople, eventually destroyed by Mohammed II. for its mosque, but said to have served as the model for St. Mark's at Venice and St. Front at Périgueux. The earlier buildings of Central Syria seemed to have had considerable influence on Byzantine architecture. After the building of the great Sta. Sophia, the constructive problem to be solved was making domes on pendentives safe. The original dome of Sta. Sophia had fallen twice, and, though rebuilt with a higher rise, was not then absolutely secure. The weakness of the abutments to the dome and pendentives was mainly on the north and south sides. No other big dome was to be found in Byzantine work; in minor and later examples barrel-vaults took the place of the arches, which abutted the dome to the north and south. M. Choisy had pointed out that the dome of Sta. Sophia at Salonica was abutted by vaults one-third the diameter of the dome, but that church was probably two centuries later than its prototype.

The church to the Virgin at Salonica, called by Texier and Pullan St. Bardias, had been looked on as an early specimen of a dome on a drum, but the date of its dedication was 1028 A.D., and its arrangement also pointed to a late date, for the plan showed three apses at the east end, with a large central dome supported on columns and surrounded by four small domes. A similar arrangement of five domes was found at St. Nicholas at Myra, which was nearly identical in plan with St. Theodore at Constantinople. In Greece the squinch or conch seemed to have been preferred to the pendentive. Most of the peculiarities in churches after the building of the great Sta. Sophia were structural ones to prevent the spread of domes on pendentives, and the use of drums added to the weight; they showed, however, that the Byzantines had learnt to build domes securely. The æsthetic devices of early Byzantine work were not easy to describe, for most of the columns came from temples. The slips of entablature over the columns in the groined halls of the Roman Baths were roughly imitated by a block put over the capitals; these blocks were universal up to a certain period. It was also possible that the treatment of the arcade over the Porta Aurea at Diocletian's Palace was a common practice. Besides the cup, cushion-shaped, or cubical capitals, the turning the apophyses of the columns into bands was worthy of note. Æsthetically, the outsides of the buildings appeared to have received little attention, although some fronts were ornamented with blind arches or open arcades, and in later work bricks in zigzags, or rude imitation of the Greek fret, were used. The profiles of Byzantine work were tame and commonplace, with no proper æsthetic sequence in the mouldings. The interiors were splendidly decorated after the Roman manner, which the author described. The five Imperial palaces at Constantinople all joined together were as curious in construction as they were splendid in internal decoration. As the Byzantine Empire shrank away, the position of these palaces was found to be too exposed to attack from the Bosphorus, and another was built at Blachernæ, on the Golden Horn. The great tank called the Cistern of Phloxenus, believed to be of Constantine's time, was interesting as exhibiting how the Byzantines built for pure utility. The peculiarities of Byzantine construction were given in M. Choisy's work, *L'art de bâtir chez les Byzantins*, and was most original and interesting. The vastness of the interior of Sta. Sophia, the author considered, was most striking, and was greatly aided by one having to go down the narrow narthex, through the Imperial door into the main edifice. In the course of his description of the interior, Professor Aitchison drew special attention to the lighting, as matter he deemed not sufficiently thought of in modern buildings. There were forty windows round the base of the dome; the aisles on both floors were flooded with light, and there were many windows in the north and south clerestoreys. The decoration also was splendid; the lower part of the walls panelled with precious marbles, the spandrels of the upper arcades and friezes inlaid with magnificent patterns of black and white marble, superb monolithic columns of porphyry and verde-antique, and gold mosaic all combined to produce a dignified and superb magnificence. The Professor concluded his Paper with a reference to the present age, perhaps the most marvellous the world has seen, and said architecture had made great strides, and architects were bestirring themselves to make greater. What seemed, however, to be overlooked was that architecture was a structural art, and that all that architects could tell was by building; yet very few seemed to thoroughly acquire the art of construction. As a nation the English could not pose like the Greeks as lovers of the beautiful; but they were not so far removed from the Roman character, that they need despair of producing the grand and the dignified. Success was

only to be achieved by the united and continuous efforts of many, for generations. Noble architecture could not be looked for until there was a passionate desire for it among the people, devotion in the architects, and the opportunity of acquiring perfection by a long series of monuments to one noble purpose.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 81.)

In vain did Owen Roe O'Neill supplicate the Supreme Council at Kilkenny to furnish him with men, so as to enable him to confine the enemy within the walls of Dublin, during the year 1647. But, inattentive to his request, the English soldiers were able occasionally to issue forth, and they overran Wicklow at one time, carrying off all the corn and provisions they could find, and wasting towns and villages with fire and sword. He then hesought them, that he might be allowed to gather his scattered forces together, so as to prevent them coming into the County of Kildare. He also asked for even one regiment to hold the enemy in check at Reban or Athy. But, influenced by Ormond, and secretly jealous of O'Neill, they refused him any aid, and, as a consequence, the English penetrated into that quarter, and summoned many castles, which, for want of relief, were forced to surrender.

The war in Munster had been unfortunate for the confederates during the winter and spring of 1647-1648, and Inchiquin, who had over-run a considerable part of that province, now marched from Carrick-on-Suir to Callen. Thence he sent a message to the Supreme Council in Kilkenny, that unless they should send him £5,000, he would advance to burn and sack the city. Whereupon, in their distress, an order was immediately despatched to O'Neill, that he should march thither to defend it. Without delay, he summoned his three regiments to advance from Leix, and soon he arrived in Kilkenny. Hearing of this advance, Inchiquin departed from Callen, and returned to Carrick-on-Suir. Meantime, O'Neill solicited the Council—but in vain—to arrange for his three regiments acting in a body, and to maintain them in or about Reban, if only to be forthcoming for such another occasion. However, notwithstanding his unreliable and deceitful nature, the Confederate Council were ready to enter upon negotiations with Inchiquin, to form an alliance with him, or to procure a cessation of hostilities.

Nevertheless, when Inchiquin from Munster, marched to Callen in the beginning of 1648, the Supreme Council sent word to O'Neill, that he should march to their rescue, as the enemy was within five or six miles of Kilkenny. Although knowing well their secret enmity towards him, three regiments were ordered from Leix, and at the head of these he went to that city. When Inchiquin heard of such movement, he left Callen, and returned to Carrick-on-Suir, where he had already taken possession of Ormond's Castle. At that time, O'Neill pressed upon the Supreme Council the necessity for concentrating his forces to operate on the enemy with effect, but they disregarded his advice. Neither would they give him means to keep the three regiments that came to their relief at Reban, whence they might be summoned to serve in a similar emergency.* It is stated, that Owen Roe O'Neill had some intimation or knowledge of a plot to take away his life about that time, and that he left Kilkenny secretly with his three regiments, and afterwards marched to Reban, his headquarters. There, they continued during the rest of the Lent 1648, and almost every day were they engaged in some skirmishes with their enemies in the County of Kildare.

When the Nuncio arrived in Kilmensie, a house near Maryborough, and then in occu-

* Abstract of Paper by Professor Aitchison, A.R.A. Read at Royal Institute of British Architects on the 21st ult.

* See "A Contemporary History of Affairs in Ireland from 1641 to 1652," edited by John T. Gilbert, vol. I., part I. "Aphorismal Discovery of Treasonable Faction." Third Booke, chap. ix, x., pp. 187 to 188.

pation of Henry Roe, the son of General Owen Roe O'Neill, he issued the following excommunication against all who should adhere to the cessation of arms, as agreed to between the Supreme Council at Kilkenny and Inchiquin:—

“Nos, Joannes Baptista Rinnucinus, sedis Apostolicæ gratia, Archiepiscopus et Princeps Firmanus, ac in regno Hiberniæ Nuntius Apostolicus extraordinarius, et nos Episcopi, ad effectum de quo infra specialiter delegati, et sub-delegati, &c.:

“Cum jam compertum habemus, die vicesimo Maii instantis publicatum fuisse cessationem armorum inter Supremum Concilium Confœderatorum Catholicorum et Dominum Baronem de Inchiquin, in qua multi sunt articuli, prius ab omnibus Archiepiscopis et pluribus Episcopis hujus regni coram nobis Nuntio Apostolico congregatis, maturé ac diligenter discussis et tanquam injuste ac inique per eosdem die 27 Aprilis (nemine excepto) dammati, prout constat ex declaratione per supradictos Prælatos eadem die 27, Supremo Concilio regni præsentata, ut religionis Catholicæ augmentum, Ecclesiæ libertas, et bonum hujus [regni] ad Die omnipotentis gloriam, ac innocentis populi Patriæ prosperentur; Nos Joannes Baptista Archiepiscopus Firmanus, et in regno Hiberniæ Nuntius Apostolicus extraordinarius, et nos eorundem Archiepiscoporum et Episcoporum autoritate delegati, et in defectum delegatorum subdelegati, sub pœna excommunicationis latæ sententiæ omnibus et quibuscumque tam ecclesiasticis quam secularibus in quacumque dignitate et præminencia constitutis, præcipimus et mandamus, ne supradictam cessationem quocumque modo per se, vel per alios, directe vel indirecte consilio, auxilio vel favore faveant, vel defendant; necnon sub eadem pœna præcipimus omnibus et singulis Generalibus, Colonelis, Ducibus, officialibus, militibus et quibuscumque aliis Catholicis, ne cum prædicto Barone de Inchiquin, vel cuicumque alio hæretico sese jungere, aut quovis alio modo ex superius enarratis, eidem vel eisdem adhærere præsumant vel audeant arma sumere contra exercitum, sen exercitus Catholicos dictam iniquam cessationem impugnaturum vel impugnatos, cui etiam pœnæ omnes et singulos subjacere volumus et decernimus qui supradictam cessationem acceptaverint etiam si sunt de corpore ipsius Supremi Concilii, si ipsam ulterius quoquo modo, ut supra sententur, et pertinaciter defendant, nisi infra novem dies a notitia habita præsentium etiam per viros fide dignos resciperint: quorum tres primos pro primo termino, tres alios pro secundo, et demum tres ultimos pro peremptorio omnino constituimus, et assignamus: omnes vero communitates, sive urbium sive oppidorum, villorum aut pagorum si predictam cessationem acceptaverint vel acceptatam ut supra quovis modo defenderint; et nisi infra novem dies pariter, ut dictum est superius, resciperint, Interdicti pœnamque cessationis a divinis incurrant, districtæ præcipiendo mandantes, ut omnes religiosi cuicumque Ordinis, etiam societatis Jesu, non obstantibus quibuscumque privilegiis, etiam missionariorum inviolabiliter prædictum interdictum observent. Mandantes insuper omnibus Vicariis generalibus et capellanis exercituum ut, iis literis visis, sive impressis, sine habita earundem copia manu cuicumque Episcopi vel notarii Apostolici subscripta, eas statim sub pœna excommunicationis latæ sententiæ et aliis arbitrio nostro iniungendis in ipso exercitu publicent: Vicariis autem sive curatis et quacumque ratione curam animarum habentibus, ut sub eadem pœna prima die festiva inter missarum solemnias publicare, et in foribus ecclesiæ eas affigere teneantur. Si qui vero contra attentare præsumperint maledictionem æternam se noverint incururos.

Datum Kilmensi, die 27 Maii, 1648.

Joannes Baptista, Archiepiscopus Firmanus et Nuntius Apostolicus extraordinarius.

Euerus, Clogherensis Episcopus.

Fr. Boetius, Rossensis Episcopus.

Fr. Antonius, Clonmacnosensis Episcopus.

Robertus, Corcagensis Episcopus.

Arthurus, Dunensis Episcopus.

Amoventes et lacerantes sint ipso jure excommunicati.”

This excommunication was sent to Kilkenny, and, according to instructions given, it was posted on the church doors for promulgation. However, the Earl of Castlehaven and Dr. Fennell tore down those copies fixed on our Lady's Church and on St. Patrick's, while the fragments were trod upon in the dirt. The Council and many others of the Confederate Catholics denied the validity of that excommunication, and appealed to his Holiness the Pope, while they sent a copy of that appeal to the Nuncio, by one Mr. Richard Lalesse, a gentleman of Kilkenny.

(To be continued.)

ESSENTIALS OF HOUSE SANITATION—HOW TO SECURE THEM.

We give below an abstract of the discussion upon the paper by Mr. William Gray, C.E., M.R.I.A., read before the Belfast Natural History and Philosophical Society, on 9th ult., and published in our last issue:—

Discussion.

Dr. Lindsay spoke in high terms of the interest and value of Mr. Gray's paper. The facts and principles relating to the hygiene of the house were really few and simple, but there was an urgent necessity for constantly pressing them upon the attention of the public. The high death-rate of Belfast was partly due to a damp subsoil and the unhealthy occupations of the people; but it was also in part attributable to purely preventable causes, such as defective plumbing and the imperfect removal of filth. Medical men had often to order an examination of pipes and drains, and it was almost the rule for some serious defects to be discovered. The result of such defects was not only much disease, but a great deal of general low health and impaired vitality. A common defect was an insufficient flush of water. Householders should see that they had a three or four gallon flush—anything below this mark was insufficient. He agreed with Mr. Gray that complicated schemes of piping should be rejected, and the utmost simplicity aimed at. The public should get rid of the idea that house sanitation was an abstruse subject, to be reserved for experts; and every intelligent householder should be able to understand its principles, and take an intelligent interest in their application.

Conway Scott, C.E., Local Executive Sanitary Officer, referred in complimentary terms to much of what Mr. Gray had said, and particularly as to the necessity for improving the surroundings of our working men's dwellings. At the same time he knew, from long and constant experience, that landlords were not altogether to blame; many of them were most anxious to introduce all that Mr. Gray would desire, but found that the tenants were so careless of every form of closet fitting, that they abused their use, or so woefully damaged the apparatus, that the cost of repairs and renewals rendered it impossible to cope with the matter. It, therefore, became a matter of £. s. d., and the landlord in simple self defence had to try and suit his tenants' habits rather than engage in the costly efforts to improve their surroundings. As to the ventilation of the main sewers of the city, it was one of very great importance, and was by no means neglected by the city authorities. The vents along the centre of the streets are objectionable, and experiments have been made Ballymacarrett, on the County Down side of the city, with the view of substituting shafts for the ground vents, and several shafts have been taken up the gable end of houses, so that the impure air, instead of flowing out at the

surface of the ground, is delivered at the highest possible point.

Dr. Macaulay, solicitor, on being called by the President, said—I congratulate the society on the admirable lectures delivered this session, and Mr. Gray on having delivered to-night a lecture of the greatest practical utility. We are all indebted to Mr. Gray for the many services he has rendered in the past to the society on numerous occasions. And we felt confident to-night a treat was in store for us. We have not been disappointed, as Mr. Gray has, with his usual ability, explained lucidly House Sanitation. The health of the community depends mainly on the progress of sanitary science. Great attention has been recently given to drainage and ventilation of houses. And it is strange that in some of the worst slums, where there appears on every side disgusting filth, there is no zymotic disease; whilst in the suburban villa, replete with sanitary improvements, disease creeps in and strikes prostrate its unfortunate occupants. This shews there is still something yet to be learned, so as to make the knowledge of sanitary science complete. I trust that the lovers of the science will continue their efforts, and bring to perfection this science, which concerns so much the welfare and happiness of communities. I venture to predict that, as the science progresses, those huge erections called effluvia pipes will be abolished. At the present stage they gratify the imagination; for people think, when they see a tall effluvia pipe, the bad smells will be conducted upwards by it. Now this might be the case if noxious gases were lighter than the atmosphere. I do not pretend to have the chemical knowledge to determine whether or not they are heavier; but if they be heavier than the air, it is quite clear the noxious gases never ascend the effluvia pipe. As regards water-closets for small houses, I think very few owners of property will be so foolish as to put such closets in houses let at a few shillings per week. The fittings would not be kept in proper order at any cost. I knew a gentleman once who got into his head the idea he would benefit the working classes by putting water-closets in their yards. The Water Commissioners refused to supply the water, thinking it was an absurdity. But the gentleman referred to got so infatuated with the idea, that he said he would compel the commissioners to supply the water. Accordingly, he appealed to the Queen's Bench for a small document lawyers call a *mandamus*. The case was solemnly argued, and it was discovered that the commissioners were legally bound to supply the water. The owner of the property, after great trouble and expense, got his *mandamus*. The commissioners supplied the water, and it was then found that it would be impossible to keep the fittings in order. The owner of the property had at last to abandon his pet idea, and would not put up any more water-closets in workers' houses. In conclusion, I have to express the great pleasure I felt in being present at this evening's proceedings, from which we have all learned lessons of practical utility.

Mr. Edward Winnington, R.P.C., said—Mr. Chairman, with your kind permission I would desire to make a few remarks on the interesting lecture we have just listened to. I have carefully taken notes of the various parts which attracted my attention, and which, I trust, will be useful to me. The lecture has been spoken to by the medical profession, and by the architects, and I now wish to speak as a plumber—I may say, as a master plumber. I do not think it would offend Mr. Gray were I to say that the title of his lecture would not be destroyed if it were changed, and called a lecture on “Practical Plumbing.” I was very glad to hear Mr. Gray making the reference he did to the intelligence of our workmen, as it is now acknowledged that the Belfast workman is equal to any that may be found in any other country. I was pleased to notice the reference made to the insanitary condition

of some of our National schools, as I know of one, at least, not very far distant from the place where we now are, and where the means of the people would lead you to expect a different state of things, where the sanitary arrangements are, to say the least of it, most ridiculous, and far from what they ought to be. I cannot agree with Mr. Gray in being satisfied with the pattern of bath waste which he has exhibited, as I do not think it would be an improvement on that which is generally in use, and I would like to remind him of the fact that the modern bath is now constructed on quite a different principle to that he has suggested by the arrangement of waste, which is placed in an enclosure at the lower end or foot of the bath, the outlet being in the side of the bath close to the bottom—but not in the bottom—of an ohlong shape, and with, perhaps, two bars across it to prevent anything passing down that would stop the waste pipe, and such is the form of the bath that the water is all drained off, leaving nothing perceptible in the bottom; but I quite agree with Mr. Gray, and am pleased to note his suggestion with reference to the placing of the waste of the bath convenient to the outer wall, instead of as at present being fixed the opposite way, and wonder we did not think of this sooner. He has told us the truth about the old pan water-closet—they are now out of date; but with reference to the flush of the closets which are being used in their stead, I agree with some of the speakers who have preceded me in saying, that there should be a flush of four gallons, as three gallons does not always effectually cleanse the apparatus. I was very much interested in the discussion on the air shafts of main sewers, but will not at present venture into it. I was disappointed when Mr. Gray made reference to tests, that he did not mention any of the methods of testing, and explain some of them—whether he would have recommended the “smoke test,” or the “peppermint test”; and I would be glad in his reply if he would give us some information on this point. I have no sympathy with the recommendation he has thrown out for the formation of a “sanitary exhibition,” as I rather think it would divert trade out of its legitimate channels. I believe I am stating a fact when I say that personally Mr. Stelfox had no desire to open an exhibition of gas apparatus such as the Corporation have done, but he was obliged to do so because no house in the city, in that trade, could afford to keep a stock sufficiently large, and give it out on terms which they give it out on, to meet the requirements and suit the people as they have done; but it is not the same with reference to sanitary fittings, as there are many of the first-class plumbers and plumbing establishments in the city who are keeping, and who desire to keep, all these fittings of the newest and best description, so that I do not think we have need of such an exhibition as Mr. Gray proposes. I consider Mr. Gray's lecture a very interesting one; but before I sit down I wish to draw your attention to another matter. We have been favoured during this winter with a series of lectures, in this place, on the health of our homes, two of them having very particular reference to this same question of plumbing work, one by Professor Sinclair, and the other by Dr. Byers, and now this paper of Mr. Gray's, all showing the importance which is attached to this subject by eminent and public men, but they have left us at a point without providing for having their recommendations carried into effect; for, if the suggestions and instructions conveyed are to be carried out, this cannot be done except by competent and tried men. For this purpose I would direct your attention to the important subject of the “National Registration of Plumbers,” under the provisions of which you have a list of capable and qualified men, to whom you may entrust your work, with a reasonable expectation that it will be properly attended to and done; and I think it would be well for gentlemen like Mr. Gray to take note of this, so that they might give this movement all the encouragement possible,

as they will find it deserving of it. I make this reference to the Registration of Plumbers with some confidence here, because that you, Mr. President, have taken such an interest in this movement, and have given it your hearty sympathy and support since its first introduction to our city.

Mr. S. F. Milligan said he agreed with the principles laid down by Mr. Gray for house sanitation. Since this subject was discussed in this room, some twelve months ago, he had given some thought as to the best methods of dealing with sewer gas, and considered the open gratings which discharged in the streets were most objectionable, and that burning the gas and calcining the germs contained in it was much to be preferred. There were various methods at present in operation for effecting this object. He had thought that a Bunsen burner could be utilised for heating to a very high temperature either metal or asbestos, through which sewer gas would pass, and being thus split up through a great number of apertures, every portion of it would be subjected to pass over the heated surface, and the germs therefore destroyed. Mill furnaces could also be used for burning the gases of a large sewer, or furnaces could be constructed for burning both the refuse of the streets and also the sewer gas. In his own case he had used a Buchan's intercepting trap for disconnecting his house drains from the town sewer. He had the bath-room and scullery to discharge into the open air; had done away with an ashpit, in place of which he had a box, which was emptied twice a week. He also had a good flush, which was regularly attended to, for this purpose. He utilised a housemaid's slop-basin, which contained several gallons of water, for flushing purposes. When it was filled with water, and the stopper suddenly lifted, it discharged with a rush that swept all before it, and kept the house drains and the Buchan's trap perfectly clean. He thoroughly agreed with Mr. Gray that the prompt removal of all waste matter, disconnecting the house drain from the main sewer, with a good flush of water, would contribute very much to the health of the household.

Mr. Thompson suggested that the main sewers should not be ventilated at the surface at all, but that shafts or chimneys should be used, with strong furnaces—the latter to be kept going, and all refuse combustible matter of every kind should be burned up. The operation of burning the refuse would have the effect also of ventilating the sewers.

Mr. J. Finlay Peddin, C.E., Ulster Sanitary Association, could not see how the syphonage of the closet traps could be prevented if the ventilating pipe of the soil pipe was omitted, as suggested by Mr. Gray.

After some general observations from the Chairman (Professor Fitzgerald, C.E.), he called upon Mr. Gray to reply.

Mr. Gray was glad that his lecture elicited such a capital debate, and was thankful to the various speakers for their comments. As Dr. Lindsay remarked, the whole matter, so far as its essential points were considered, was extremely simple, and every householder should be familiar with them, and by personal supervision see that there was no defect in the sanitary arrangements of his house. Mr. Scott was quite right about the difficulty of getting weekly tenants to attend to the improved closet fittings; but as this had such an important bearing upon the general health of the city, the law should be put into force in dealing with wilful damage. Any tenant wilfully or carelessly damaging the apparatus belonging to a landlord, should not be allowed to get rid of his responsibility by simply shifting to another house. The careless tenant should be punished for his neglect. The law, as now framed is sufficient to meet any case where the health of the community is involved. Dr. Macaulay illustrated this, and referred to a curious fact that, often where the most improvements are made, disease finds

a lodgment. Mr. Gray explained that this was often so, particularly where a district had been long neglected, and was the receptacle for the contents of public drains. So soon as their surface is broken up for the purpose of new drainage schemes, no doubt all the evil effects of its neglected condition, will become manifest, and for a time disease will show itself. Mr. Winnington's remarks were very valuable and practical, but he spoke almost entirely to point B—Business. Mr. Gray fully approved of the registration of plumbers—it was a step in the right direction; but Mr. Gray thought that no person should be registered as a plumber except a plumber. All trades should be registered, but no one but the qualified practical tradesman should be registered as such. This was not the case with the registration of plumbers. There were men registered as master plumbers who were not plumbers. Carpenters and plasterers and bricklayers—each and all should be registered. The health and comfort of a dwelling now depend more on the carpenter and bricklayer than on the plumber; for now-a-days the plumber's work ends just where the absolutely essential air chamber of the bricklayer commences. Mr. Gray would not recommend the construction of a closet anywhere but *next the outer wall*, next the light and air. Light was as essential in a closet as air. Plumbers could construct safe closets anywhere, but Mr. Gray would prefer the intelligence that could devise a plan free from difficulties, rather than the skill shown in overcoming them. Mr. Gray maintained that his open free flow from the bath and slop, as described, would be a novelty; for there is not one in fifty of the plugs now in use fit to discharge the refuse liquids properly. Mr. Milligan found this rapid discharge of great advantage in clearing his drains. Mr. Gray fully agreed with Mr. Milligan and Mr. Thompson, that any method of ventilating our public sewers should include the destruction of all germs, and this involved the use of properly contrived furnaces. With reference to Mr. Peddin's remarks, Mr. Gray said that with the simple open cleansable soil pipe which he advocated, it would be quite impossible to have any syphonage occur.

THE SEWAGE FARMS OF BERLIN.*

BERLIN is situated in the sandy plains of North Germany on both sides of the river Spree, which empties itself into the Havel, at the town of Spandau, about 5½ miles below the city. The Havel is a tributary of the Elbe, and forms a succession of lakes immediately above and below the junction with the Spree, which are picturesque in places, and are a favourite holiday resort of the population. The flow of water in the Havel and in the Spree is very sluggish, and the latter river, in periods of great drought, discharges only about 460 cubic ft. per second. The area of the city is about 24½ square miles, and its population at the last census (1st December, 1890) was 1,578,794. The density varies from 220 to 25 persons per acre, each dwelling-house (flat system) being inhabited by an average of 65 people. There are about 250 miles of streets, 80 miles of brick sewers, 285 miles of stone-ware pipe sewers, and 55½ miles of pumping mains to the sewage farms. The waterworks were purchased (from an English company) by the city authorities in 1874, and the authorities also established their own gasworks, as they could not come to terms with the Imperial Continental Gas Association. The city provides for its extraordinary expenditure by the issue of loans, the last loan, that of 1886, £2,500,000, was issued above par (101·18); this is an excellent indication of the credit it enjoys in the money market.

After the Franco-German War, Berlin became the German Metropolis. Since then

* By Mr. H. A. Roebling. Read at Institution of Civil Engineers, London, on 5th Inst.

it has grown rapidly, and the changes it has undergone have been very marked. Whole districts have been cleared of their old insanitary houses, new streets have been formed, and others have been widened. Many new and elegant buildings have sprung up, the old abominably-smelling street-gutters, which were practically open sewage-carriers, have disappeared, and, under the sway of an intelligent and enterprising city council, which is the sole municipal authority, Berlin has become one of the finest and best managed cities in the world.

It was originally intended to drain the city in the ordinary way by two main intercepting sewers one on each side of the river, with one common pumping station, and to discharge the sewage, after some slight treatment, into the Spree. A scheme was prepared on these lines in 1861, but it was not accepted, and finally, after numerous experiments respecting the best mode of sewage disposal had been made, the city council decided to employ sewage-irrigation, and Mr. Hobrecht's new plan for the main drainage of the town was adopted in March, 1873. The works were commenced in August of the same year, and they have been in hand ever since. Under Mr. Hobrecht's scheme, the whole area of the town is divided into twelve separate drainage areas, called "radial systems," which are entirely independent one of the other. They have each a pumping station, from which the sewage is raised direct on to the farms, two drainage-districts being in some cases united to one rising-main. The area of these radial systems varies from about 674 acres to 2,117 acres, the total population in such of them as are entirely built over being about 200,000.

The authorities have purchased the whole of the land required for sewage-farming; some of this land lies in the north and north-east, about six miles from the city, and some in the south about 12 miles distance from it. The total area of all the farms has now reached 18,790 acres, of which at present only 11,016 acres are under sewage treatment; the remainder is, however, being prepared for sewage-farming, and the acreage of the farms is extended, as circumstances require. The subsoil on the farms is, generally speaking, sand, with a preponderance of sandy loam in places, especially on the northern farms, and is well suited for sewage-irrigation. The land is practically level, with small eminences here and there. The sewage of about 112 persons is now treated on each acre of land.

The distribution of the sewage takes place by means of underground cast-iron pipes, which start from the stand-pipes on the rising mains, and terminate on the small summits, where the open earth-carriers commence. The whole of the land that receives sewage has been specially prepared for irrigation by levelling and draining. The effluent from the farms is conveyed in open ditches into small streams, which empty into the River Spree, partly above, partly in the city, and partly below it.

The authorities employ a large number of "misdemeanants" in the work on the farms; these are men who have been sentenced for various minor offences to undergo a period of confinement in the House of Correction; they are the loafers of the Berlin streets. From a philanthropic point of view, this course cannot be too highly recommended, as it gives the men a chance to get back into regular habits and thus to redeem their character.

The city has spent about £2,906,792 in works of sewerage, and £1,173,648 in the sewage farms, and about 350 million tons of sewage have been utilised on the farms since the commencement of irrigation. Broadly speaking, the largest acreage in 1889-90 was under cereals, viz., 2,817 acres, then follow the grass plots with 1,785 acres, the roots and green vegetables take the third place with 1,013 acres, and oil-producing plants are cultivated only on 237 acres. There has been a very fair profit on the management of the farms since 1886, but, of course, the

amount has not been sufficient to meet the payments for capital expenditure. The deficiency, however, is not a large one, as it has necessitated only an average annual rate of 0.89d. in the £ during the last five years, or a payment of 7.11d. per head of the population per annum. This is a remarkably small amount, and compares favourably with what has been paid in England for sewage utilisation.

The degree of purification attained has been excellent, as on an average from 95 to 98 per cent. of the organic ammonia contained in the sewage has been abstracted on the farms. This is considerably above the figures quoted by the Rivers Pollution Commissioners as the result of sewage-farming in this country. The farms have had no ill-effect upon the health of the population living on them, and the prejudice against them has almost died out, which is evidenced by the ever-increasing demand for sewage by adjacent farmers and landowners.

On the whole, Berlin is to be congratulated upon the cheap and efficient way in which it utilises its sewage. Where other towns have failed, it has succeeded, and that upon a scale at present without a parallel.

CHICAGO EXHIBITION.*

THE Royal Commission have received information that her Majesty's Government have it in contemplation to increase the grant of £25,000 made for the purpose of the British Section, in order that the charges for space may be remitted. As soon as they receive information of the final decision of the Government on this point, they will communicate immediately to the exhibitors, and will arrange for the payments already received to be returned.

A meeting of manufacturers, merchants, and others interested in the Exhibition, was held on the 8th inst., at the Manchester Town Hall.

The Mayor (Mr. Alderman Leech) who presided, said that considering the importance of the Exhibition, he readily consented to the wish expressed by the Royal Commission that he should call a public meeting to consider the matter. The Exhibition would be on perhaps a larger scale than any yet held, and the inhabitants of Chicago had themselves formed a guarantee fund of £2,000,000 sterling in order to ensure its success. The English Government had voted £25,000 to assist the representation of this country at the Exhibition, but it was believed that this sum would be increased to £60,000. No doubt there was some soreness in this country with regard to the M'Kinley Tariff; but other countries had to submit to the same regulations, and France and Germany were making great efforts to be thoroughly represented.

Sir Douglas Galton, K.C.B., said he and his fellow Commissioners had come down here because they felt the enormous importance of having England properly represented at the Chicago Exhibition. He might be met by remarks as to the M'Kinley tariff, but it was his very strong opinion that our manufactures benefited by the protection which existed in America. If the Americans had not had protection for their manufactures and industries, they would now be competing with us more than other nation, in every market in the world, and probably, with their wonderful skill and talent, would be beating us. It was not so much for the sale of our goods in the United States that we ought to exhibit at this Exhibition. The Exhibition would not only represent the United States, but would be an exhibition on the part of all nations in the world. The South American Republics, with which we had a large trade, would be full represented. There would be China and Japan, and also other nations to whom we now send goods. There would, in addition, be a strong representation of the industries of Germany and France. The Government were extremely

desirous that England should be thoroughly represented, and for that reason they were now considering the question of increasing the amount to be devoted to this purpose from £25,000 to £60,000. The increase in the grant would enable them to offer space to the exhibitors free of charge. The Royal Commission earnestly hoped that the various great industrial centres of England would take up this question, and organise exhibits of their various industries.

Mr. R. M'Cormick, the Commissioner from Chicago, said it gave him great pleasure to be in Manchester. In America, Manchester was regarded as the Chicago of Great Britain. There was, however, a marked difference between the two places. Manchester was the centre of a great manufacturing district, and Chicago was the centre of a great agricultural district. The population of each place was about 1,000,000, and, like Manchester, Chicago was about to make a canal which would save the transshipment of goods. He did not propose to discuss the M'Kinley Tariff, but he would like to point out that, notwithstanding that tariff, the United States were still by far our best customers. Chicago, moreover, was the centre of a large district where there had been a great deal of opposition to the tariff. By sending goods to the Exhibition, English manufacturers would be able to demonstrate to the merchants and agriculturists of the Great West how much cheaper they could sell their goods without the tariff. Exhibitors would be allowed to mark on their goods the cost to the buyer at Chicago without the tariff, and the cost with the tariff. This would be a practical demonstration of the benefit there would be in doing away with the tariff. The Chicago Exhibition would be absolutely unique. Hitherto exhibitions had been held in countries which were not only large manufacturers, but large exporters of manufactured goods. The United States, on the other hand, did not export manufactured goods, or at any rate not in large quantities. It exported raw materials, and principally to this country, taking back from us manufactured goods. Efforts were about to be made in the United States to secure a share of the cotton trade with South America, which had hitherto been controlled by Great Britain.

Sir Philip Cunliffe-Owen said Manchester was always first in every good work, and he was sure the Manchester manufacturers would take a prominent part in this exhibition. It would be no ordinary exhibition. It would not be an exhibition for purposes of amusement, like that at Paris. It would be an exhibition for business men and intended for business purposes. He hoped England would make a good exhibit, and show what the old country could do. It would be a great mistake if we did not offer the right hand of fellowship to the United States on this occasion. It would, moreover, be very important to show the American people the prices at which our goods could be manufactured, and what it cost them to have a tariff.

Sir H. Trueman Wood said the arrangements were so far completed that, even if no further progress was made with the British section, England would have no reason to be ashamed of her show there. The greater portion of the space placed at the disposal of the Royal Commission was already occupied, and he hoped Manchester would come forward.

Mr. Alderman Bailey said he did not know a single engineer in this district who proposed to be an exhibitor, and he was not at all surprised. The Americans had already copied our machinery to a great extent, and why should we, at our own cost, give them further facilities to do so.

Mr. M'Cormick, in answer to Mr. E. Sowerbutts, said that steps would be taken to protect, while it was in America, any article which was patented here, but not in that country. He further remarked that the English manufacturers could not please their brethren in America better than by staying away. The Americans were beginning to be exporters of iron goods, and it would quite

* From the Journal of the Society of Arts.

suit them if that class of goods was not represented from this country.

The Mayor of Oldham (Mr. Alderman Emmott) said the makers of machinery in England did most of their business he believed with foreign countries; and, as they sometimes complained that their goods were not known, he did not see why they should object to the advertisement they would get at Chicago.

THE CYCLORAMA AT THE ROTUNDA GARDENS.

"[Cyclo—Gr. *ὑπαμα*, sight, spectacle.] A pictorial view which is extended circularly, so that the spectator is surrounded by the objects represented as by things in nature. The realistic effect is increased by putting, in the space between the spectator and the picture, things adapted to the scene represented, and in some places only parts of these objects, the completion of them being carried out pictorially."—*Webster*, new ed.

THE "Cyclorama"—a word so clearly defined by Webster—now presented to the notice of the Dublin public for the first time, is displayed in a specially-constructed building, or rather a tent on a large scale, in the centre of which is a platform. The painting (which is after the famous work of Herr Bruno Piglhein) depicts the City of Jerusalem and the surrounding country, as it is supposed to have appeared on the first Good Friday.

"To those who have visited the Holy City, the picture, when once the altered conditions have been fully comprehended, will be a delightful reminiscence, while, to those who have not been so fortunate, it will afford a vivid idea of Jerusalem in the days of its glory. The spectator at once finds himself in the Holy Land, on an eminence on the north-west of the city of Jerusalem, from which he is able to obtain a comprehensive view of it, and many miles of beautiful scenery extending in every direction. He realises, as never before, that the mountains are round about Jerusalem. The city interposes between himself and Olivet, and he clearly discerns the road by which Jesus descended to the Temple on the first Palm Sunday.

On the farther side of the Jordan and the Dead Sea rise the mountains of Moab, and the appearance of those memorable heights from which Moses viewed the Promised Land is exceedingly beautiful. Indeed the apparent distance is so great that one can scarcely believe that such a scene is confined in a building.

The foreground of the stupendous painting is made of real objects, including tents and camp fires and Eastern vessels, and the blending is so cleverly managed that it is impossible to detect where construction ends and art begins. Indeed, so great is the

illusion produced, that we are bound to confess that the word 'Cyclorama' does not, and cannot, convey to the mind any conception of the marvellous beauty and awful grandeur of this magnificent spectacle; and we have pleasure in saying that everyone must go to see it, to form an adequate opinion, and the visit is certain to be enjoyed and repeated."

We would strongly recommend our friends to, in the first instance, supply themselves with a copy of the excellent descriptive pamphlet issued by the manager of the "Great Cyclorama." In it they are presented with a large fold-up key map, on which will be found the principal parts to which their closest attention should be directed.

NOTES OF WORKS.

The time for receiving tenders for the rebuilding of Cork County and City Courthouse and offices has been extended to the 23rd inst.

A new chancel, sacristy, and side chapels are to be added to the R.C. parish church, Leighlin. The plans have been prepared by Mr. Walter G. Doolin, M.A., B.E., and the tenders are open till 27th inst.

A new organ, built by Messrs. Telford, of Dublin, is about to be placed in Rostrevor parish church.

A fine site has recently been secured in one of the best positions in the town of Carlow, for a new Methodist church, and Mr. Thomas Burgess, of Kingstown, has promised £500, on condition that at least £2,000 be expended on the building.

The Belfast Harbour Commissioners are having a new shed constructed on the north side of the Prince's Dock, by Mr. J. Rogers.

Mr. J. Cunningham, Dalkey, Co. Dublin, has been declared contractor for the laying of pipes and the construction of a reservoir for supply of water to Clonmel, the amount being £8,325. Mr. W. H. Radford, C.E., of Nottingham, is the engineer.

The works in connection with the new Parcel Post Building in Amiens-street, are being actively proceeded with by the contractor, Mr. Samuel Worthington. The estimated cost will be about £20,000.

The old and well-known premises of the late Mr. George Herbert, publisher and bookseller, 117 Grafton-street, close to College-green, have been acquired by Messrs. Cook and Son, railway and excursion agents (at present located at 42 Dame-street), and are about to be remodelled and fitted up as new offices by the contractors, Messrs. George Whiteacre and Son, of Summer-hill.

DEATH OF JOHN MURRAY, PUBLISHER.—The death of Mr. John Murray took place on the 2nd inst., in his 84th year. He was the third John Murray who had presided over the famous firm of publishers, and his active connection with literature extended over more than half a century. The late Mr. Murray was born in 1808, and was educated at the Charterhouse and at Edinburgh University. He entered the firm at an early age, and proved a valuable assistant to his father, who published all Lord Byron's poems. Mr. Murray recollected when a boy of seven having seen both Byron and Scott in his father's drawing-room, at Albemarle-street, and twelve years later, when a student in Edinburgh, he was present at the Theatrical Fund dinner, at which Sir Walter Scott avowed himself the author of the "Waverley Novels."

The Irish Builder.

NOTICE.

All communications for the literary department of this journal should be addressed to "The Editor."

Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42 Mabbott-street, Dublin, whose receipt alone is recognised.

It is respectfully requested that all parties indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

We shall be glad to receive notes of works in contemplation or in progress in town or country.

Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not in all cases subscribe editorially to the opinions or statements set forth in same.

Illustration.

CHURCH OF ST. CARTHAGH, LISMORE.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 777.

THE REBUILDING
OF THE COURT-HOUSE, CORK.

ON the 23rd ult., the Joint Committee of the Cork Corporation and County Court-house Commissioners held a meeting, to consider the several tenders sent in for the execution of above work.

The Secretary (Mr. D. F. Giltinan) reported that the extension of time granted at the last meeting, had been duly advertised, besides being telegraphed to non-resident intending competitors; and, as a result, eight tenders had been deposited in the Munster and Leinster Bank before eleven o'clock that morning, and were now submitted for consideration.

After some preliminary discussion and an explanation offered by the architect (Mr. W. H. Hill), as to the circumstances which might account for tenders being found to exceed the maximum of £20,000, set down in the architectural competition, the eight tenders were opened and numbered consecutively, no names being mentioned, until the lowest tender had been ascertained. The tenders were all in the form issued by the architect, and contained four headings, viz.:—(1) Gross amount of tender; (2) Deduction in case the front of building to Liberty-street, between plinth and cornice, is executed in Portland cement, instead of ashlar facings with cut stone dressings; (3) Deduction if the hall arcade over plinth level is executed in brick and cement, finished with first quality Keene's cement plastering, instead of in marble; and (4) Deduction for old materials of present buildings.

The following is an analysis of the eight tenders, showing the sums quoted, under each of the four heads:—

| | | | | | |
|---------------|--|-------------------|---------|----|---|
| No. 1 Tender— | | (1) Gross amount, | £28,578 | 0 | 0 |
| Deductions | | (2) £585 | 0 | 0 | |
| | | (3) 1,302 | 0 | 0 | |
| | | (4) 578 | 0 | 0 | |
| | | | 2,465 | 0 | 0 |
| Net amount, | | | £26,113 | 0 | 0 |
| No. 2 Tender— | | (1) Gross amount, | £29,638 | 0 | 0 |
| Deductions | | (2) £600 | 0 | 0 | |
| | | (3) 1,400 | 0 | 0 | |
| | | (4) 638 | 0 | 0 | |
| | | | 2,638 | 0 | 0 |
| Net amount, | | | £27,000 | 0 | 0 |
| No. 3 Tender— | | (1) Gross amount, | £30,960 | 0 | 0 |
| Deductions | | (2) £980 | 0 | 0 | |
| | | (3) 1,250 | 0 | 0 | |
| | | (4) 1,000 | 0 | 0 | |
| | | | 3,230 | 0 | 0 |
| Net amount, | | | £27,730 | 0 | 0 |
| No. 4 Tender— | | (1) Gross amount, | £27,897 | 0 | 0 |
| Deductions | | (2) £612 | 11 | 6 | |
| | | (3) 695 | 4 | 6 | |
| | | (4) 400 | 0 | 0 | |
| | | | 1,707 | 16 | 0 |
| Net amount, | | | £26,189 | 4 | 0 |
| No. 5 Tender— | | (1) Gross amount, | £29,390 | 0 | 0 |
| Deductions | | (2) £1,209 | 0 | 0 | |
| | | (3) 407 | 0 | 0 | |
| | | (4) 250 | 0 | 0 | |
| | | | 1,866 | 0 | 0 |
| Net amount, | | | £27,524 | 0 | 0 |

| | | | | | |
|---------------|--|-------------------|---------|----|---|
| No. 6 Tender— | | (1) Gross amount, | £27,540 | 12 | 4 |
| Deductions | | (2) £612 | 19 | 2 | |
| | | (3) 1,316 | 5 | 5 | |
| | | (4) 1,500 | 0 | 0 | |
| | | | 3,439 | 4 | 7 |
| Net amount, | | | £24,101 | 7 | 9 |
| No. 7 Tender— | | (1) Gross amount, | £26,455 | 0 | 0 |
| Deductions | | (2) £500 | 0 | 0 | |
| | | (3) 1,240 | 0 | 0 | |
| | | (4) 1,500 | 0 | 0 | |
| | | | 3,240 | 0 | 0 |
| Net amount, | | | £23,215 | 0 | 0 |
| No. 8 Tender— | | (1) Gross amount, | £27,355 | 0 | 0 |
| Deductions | | (2) £570 | 0 | 0 | |
| | | (3) 1,360 | 0 | 0 | |
| | | (4) 1,360 | 0 | 0 | |
| | | | 3,290 | 0 | 0 |
| Net amount, | | | £24,065 | 0 | 0 |

A special meeting of the Town Council was held on Friday afternoon, for the purpose of considering the recommendation of the Joint Committee *re* Court-house Restoration:—"That the tender of Mr. Samuel Hill for re-building and restoring the County and City Court-house, in accordance with plans and specification prepared by Mr. William H. Hill, F.R.I.B.A., and approved by the Corporation and the County Court-house Commissioners, be accepted for the full amount of £26,455, less £1,500 for old materials of present buildings, being a nett sum of £24,955, provided that of the excess of such nett amount over £20,000, one-third only shall be borne by the Corporation, and two-thirds by the County Court-house Commissioners, and subject to the sureties to be named by the contractor being approved by the Town Clerk and the law agent for the Court-house Commissioners; also that no alteration be made in the plans or specification, and no extra works ordered or carried out unless same shall have been previously submitted to the Joint Committee, and approved and ordered by them to be done."

On the motion of Alderman Roche, seconded by Alderman Ryan, the recommendation was unanimously agreed to without discussion.

Alderman Roche suggested, and the suggestion was supported by Mr. Crean and adopted that the Council should recommend the Joint Committee to publish the names of the other gentlemen who tendered, together with the total amount of their respective tenders.

In referring to this important work, the local *Constitution* says:—

A year has now elapsed since the old building was destroyed by fire, and we need scarcely say that very great inconvenience has since been experienced by the entire community. The long and, at first sight, apparently unreasonable delay, was, however, unavoidable. The insurance companies with which the destroyed building was insured, had to be settled with. Then a special Act of Parliament had to be passed. But, once this necessary though tedious preliminary was disposed of, the Joint Committee have not wasted any time in completing arrangements for the restoration of the building. At their meeting on Saturday they had under consideration builders' tenders. These, which were eight in number, came from all parts of the country, and, after a careful scrutiny, the proposal of Mr. Samuel Hill, of this city, to do the work at a cost of £26,455, being the lowest, was accepted. As Mr. Hill is allowing £1,500 for the old materials, the accepted tender is practically £25,000. Before the tenders were opened, a discussion took place, during which the architect explained the circumstances which might account for the tenders being found to exceed the maximum

of £20,000, the figure set down in the architectural competition. Since the plans were accepted, Mr. W. H. Hill was, we understand, instructed to utilise the entire of the basement for muniment-rooms and offices, which were not originally contemplated, and also to face the Liberty-street front with cut stone instead of cement. The public will appreciate the determination of the committee to have the Liberty-street front done in cut stone instead of cement, even at an extra cost of £500. In the old building the north wall was faced with cement. This mattered little perhaps, so long as Fishamble-lane remained in existence, and little opportunity was afforded for seeing what the wall was composed of. But, with the clearing away of this narrow lane and the opening up of Liberty-street, the north front of the building had for years been regarded as very unsightly. It is gratifying to learn that the committee have decided not to perpetuate such an eyesore. In another important particular the committee have also taken a very commendable course. They have decided that the vestibule or hall arcade of the new building is to be faced with marble instead of cement. In the execution of this portion of the work provision is, we believe, being made for the employment of the different specimens of marble obtainable in Ireland. With regard to the £5,000 which it is proposed to expend on the building in excess of the limit originally decided upon, the representatives of the county have acted very generously in agreeing to contribute two-thirds. They also agree to pay three-fifths of the cost of the balance between the insurance money and the £20,000. The limit of £20,000 originally fixed on would, the committee were satisfied, have proved ample, but the public generally will, we think, approve their determination to introduce the improvements we have indicated, at a slightly increased cost. We have already congratulated Mr. W. H. Hill upon the acceptance of his design for this important work. We have now only to repeat our congratulations in the case of Mr. Samuel Hill, whose tender for the construction of the building has been accepted in open competition with builders from all parts of the country.

NEW HOUSE, CHISLEHURST.

Our illustration represents the fourth and last house designed for the Camden Park Estate. It is not yet erected; the drawing which we illustrate was prepared for this year's Royal Academy Exhibition. The house is intended to be faced with blood-red bricks, finished with a black weathered jointing, with Portland stone dressings, the half-timbered work to be saturated in Stockholm tar, and the roofs covered with Broseley tiles, and all gutters and flat roofs to be covered with copper; all external window-sashes and frames to be painted white. The hall is a special feature in the design, and is carried up the two storeys, access to the bed-rooms being provided for by a gallery all round it, with turned pitch pine ballusters 2 in. thick, and walnut handrails, and 6 in. turned and carved walnut newels. The floor of parquetry, and all corridors upstairs, to have borders of parquetry. The three sitting-rooms to have ribbed ceilings to a geometrical design, filled in with anaglypta; and the hall panelled out with oak to the height of the doors. The overdoors will be carved with festoons of flowers. The principal rooms are placed at the back, viz., the garden front—as their windows command a magnificent view over the common. Our illustration represents the entrance front, and is the last of the series of Mr. Chambers' designs for this Estate which we shall be able to illustrate.

CLONEGAL: ITS VALLEY AND ITS BATTLE—A FORLORN HOPE OF THE HILL TRIBES.

THE Valley of Clonegal, in which the scenes described in our sketch took place, is a picturesque and fertile valley about eight miles long, extending from the town of Newtownbarry, in the County Wexford, to within a little more than a mile of the village of Shillelagh, in the County Wicklow. There are few more beautiful rural scenes than that panorama which lies spread out before the spectator, who takes his stand at the head of the valley, on one of the steep hills that surround it, and who is able from that point of vantage to look over miles and miles of a highly-cultivated richly-wooded country, with the handsome residences of the principal inhabitants showing here and there through the trees, and the bright rushing waters of the river Derry winding its way like a silver streak through the low lands, till it joins the larger river Slaney, and their united waters flow on together towards the sea. Here and there a dark patch of oak wood tells you that you are on the borders of what was once the great oak forest of Shillelagh; and not far from the site of the celebrated Thomas Wentworth, Earl of Strafford's great wooden house, which he called, because of the beauty of its surroundings, "Fairwood," a place where he loved to rest from the cares of State, and (keen sportsman as he was) to engage in the pursuit of that game which abounded in its neighbourhood.

Clonegal is not only the name of a valley and a parish, but it is also the name of a considerable village, that once was a fair and market-town, boasting its distillery, brewery, tan-yards, and a notable market for the sale of woollen stuffs. This village is built near the head of the valley, and almost under the shadow of Mount Leinster, which raises its giant head through the blue haze in the background. Its broad street of comfortable slated houses and neat shops adorned with a double row of forest trees that cast their shadows over its pathways, extends down the side of the hill until it meets the river Derry, which is spanned by an ancient bridge, and runs for a short distance up the hill on the opposite side of the river. At the head of the village, the towers of the Protestant and Roman Catholic places of worship are visible through their surrounding trees; and at a short distance the old gray ivy-covered Castle of the Esmonds (now the residence of H. Robertson, Esq.) tells of the time when massive walls and battlemented towers and strong arms within them were needed for the protection of those of whom it has been said,

"... the good old rule
Sufficeth them; the simple plan,
That they should take who have the power,
And they should keep who can."

Some two hundred years ago, there were two other buildings which must have added greatly to the beauty of the scene. Not far from the village, at one side were the ruins of the Augustinian Abbey, and, at the opposite side of the village, there then existed the Castle of Clonogan. Of the Augustinian Abbey of Doune, but few vestiges are now to be met with. It is said to have been founded by the Danes, who perhaps at one time extended their dominion inland from the coast as far as Clonegal; and possibly it may be from them that the valley derives its name of "The Meadow of the Gaul or Stranger."

Clonogan Castle, of which nothing now remains but the site, was once a place of considerable importance, and must have dominated over the valley. No doubt, it was originally a Kavanagh Castle, for, in a lease of the lands of the Abbey of Doune, granted in 1567 to that strange adventurer, Thomas Stuckley (then Seneschal of the County Wexford), the lands are styled the "Lands of the Abbey of Doune, in the O'Morrow's Country." Consequently, Clonogan Castle must have been in the O'Morrow's Country also, as it was not far distant from the Abbey of Doune; and, situated as it was in the midst of the Kavanagh strougholds, it would have been impossible for any sept but the Clan Kavanagh to have held it. Yet, the valley was not originally theirs,—it was the patrimony of the O'Neils of Leinster. In "a Deveyse for the reformatyon of Laynster," presented to the king in the year 1540, this castle is called "The Castell of Clonogan, the Kinge's Castell," so that it seems probable that the Crown obliged the Kavanaghs to give it up when taking from them the Castles of Clohamon and Clonmullen, which were made royal castles, although the latter castle—that of Clonmullen—remained practically in the Kavanaghs' hands, as they were appointed its hereditary constables.

Before concluding our description of the valley of Clonegal, we must not forget to mention one curious peculiarity. Compact as the valley is, enclosed within its sheltering hills, yet the delineators of county bounds have chosen to place it in three counties. That portion of the valley which is bounded by the Rivers Derry and Slaney, is in the County Wexford, and the portion without those rivers is divided by a little stream in equal parts between the Counties Carlow and Wicklow,—even the village is in two counties. The greater part of it, the places of worship and the principal shops, are situated in the County Carlow; but until quite lately the post-office was in the County Wexford, and even now the postal arrangements are all Wexford. Quiet and peaceful-looking as the valley is now, it was not always so, for, at one time, the northern pass into Wexford was through it. Poulmounty at one end of the Leinster range, and the valley of Clonegal at the other, formed the two passes from the North into the County Wexford, and consequently in the convulsions that followed the Insurrection of 1641, it was the theatre of much military activity; and when Lord Ormond left Dublin, in 1642, at the head of an army of 2,500 foot and 800 horse, with "two brasse culverines and four brasse field-pieces," for the purpose of opposing the Confederates, he rested his troops at Clonegal, and doubtless felt more sure of a friendly reception there than he would elsewhere, as it was situated on the estate of Lord Esmond, an old and trusted military commander, who was as strong a supporter of the unfortunate King Charles the First, as he was himself, and who was at that very time commanding the Royal troops at Duncannon Fort. This confidence seemed to have led to a certain amount of carelessness on the part of his following, who forgot that whoever might be the owner of Clonegal, they were in the immediate neighbourhood of a strong Confederate leader, Sir Morgan Kavanagh, of Clonmullen (also known as Sir Murrough MacMurrough), eighteenth in descent from Dermot Mac

Murrough, King of Leinster; and doubtless his scouts were in all the neighbouring woods, and when the head of Lord Ormond's medical staff, "Chiefe Chirurgeon Mr. Coddell," lagged behind, they pounced on him, and carried him off, carriage and horses, drugs and all. Knowing as we do now, the ideas then in existence as to medical treatment, we must say that they conferred an unintentional benefit on the Royalist troops, and, perhaps, materially aided in bringing about the defeat of the Confederates; for certain it is, whether owing to the unwonted supply of drugs, or from some other cause, they were defeated, and Sir Morgan Kavanagh lost his life at the battle of Ballinvegga shortly afterwards. But a very different visit from the friendly one of Lord Ormond and his army, was paid eight years after—in 1650—to the village of Clonegal. The military usurper Cromwell, who, in order to reform the monarchy, cut off the king's head, and established a military despotism that recognised no authority but his own, and who, in order to reform the churches, "stripped them clean bare," was about to make himself felt there as he did to the remotest corners of the country. His troops, under Colonels Reynolds and Hewson, having taken Tullow Castle, which was then commanded by Colonel Butler, marched from that to Clonegal, into the very heart of the country held by the hill tribes, and there tradition tells us that those tribes made a last and desperate stand, a brave but fruitless effort to withstand the invader. Nothing seems to the writer of this sketch more remarkable than the feebleness of the opposition that was, as a general rule, offered to Cromwell. It can only be compared to that offered to King Henry the Second when engaged in a similar enterprise; and in both instances the ease with which the conquerors took possession of the country may be attributed to the same cause. The inhabitants of Ireland were so deeply engaged in their never-ending quarrels with one another, that they had no energies left to devote to repelling an invader, and numbers were longing for any strong hand which would have power enough to give peace to the land. Doubtless, also, many thought that Cromwell, like others, would have been satisfied with an empty conquest, and would have returned to England, leaving things to go on much as they did before. But, however the dwellers in the valleys may have failed to realise the situation, the Kavanaghs, the O'Byrnes, and O'Tooles of the hills seemed to have foreseen what was coming, and determined to make, at all events, a stand before the Cromwellian roller passed over them. For that purpose, they mustered in force at Clonegal. Tradition does not tell us who commanded them, but, in all probability, it was Colonel Daniel or Donnell Kavanagh, the last of the Chieftains of Clonmullen, who was called after his grandfather, the well-known Donnell Spaineach, and who himself, after the defeat, escaped to Spain, and died unmarried there. The traditional account of this forlorn hope of the hill tribes, which is still green in the memories of the older inhabitants, tells us that the Cromwellian troops marched from Tullow along the old road through Orchard (a place where one of the last of the Bards, "Fleming," once gathered his pupils around him, and the site of whose residence is still known as the "Schoolhouse Field"), and, passing from that over the hill

of Monaghan, they found the village of Clonegal lying at their feet. The mountain men lay in ambush behind the houses at either side of the street, hoping to take the Cromwellians by surprise, and to throw them into disorder; as soon as the vanguard of the advancing troops had passed over the bridge at the end of the street, they rushed forth with a fury inspired by despair. The Cromwellians received them with perfect coolness, and instantly formed so as to present an unbroken front to the enemy as they poured in at either side of the street, and then opened on them, at close quarters, a deadly fire of musketry. The carnage was dreadful; and, when the mountain men found that the surprise was a failure, they fled, but not before the streets were filled with dead bodies. The remains of one division attempted to cross the Derry, but the Cromwellian vanguard, which had previously passed over the bridge, lined the banks, and the Derry was soon "red with blood and choked with dead." The remains of another division fled to Kilcarr, which was then a little village adjoining Clonegal. It was immediately surrounded, and it is believed that not one escaped. Thus a battle degenerated into a massacre, and, doubtless, it was the feeling of bitterness caused by this attempted surprise that led the Cromwellians to treat with such severity the Clonmullen sept, and to so strongly garrison all the surrounding castles. They placed a garrison at Clonegal, doubtless in the Castle of Clonogan, for we find, three years after the Battle of Clonegal, in 1653, Dudley Colclough, Esq., petitioned the government for payment for the goods and provisions made use of by the garrison at Clonegal. They had also garrisons at Carnew and Cloghomon, and "other places in the Counties Wicklow and Wexford." There can be little doubt that, if the lines of the Cromwellians had been broken, the mountain men would have exterminated them, but the long street of Clonegal was not a suitable place, even for an attempted surprise. We must suppose that the width of the street was always much the same as it is at present, and it was too wide to make the attempt to throw the Cromwellians into confusion likely to be successful. There is room enough outside the houses for two pathways, two rows of trees, and for troops to form, so that unless they were panic-stricken, the attempt was likely to be a failure. Mr. Charles Topham Bowden, an English officer, who visited Clonegal one hundred years ago, has preserved in his "Tour," a mention of this local tradition, which is substantially the same as that already given, and he has also placed on record a stanza of an old Irish song descriptive of the battle, which was translated for him into English by the Rev. Mr. M'Daniel, who was at that time the Roman Catholic curate of the parish:—

"The sun of thy glory for ever is set,
Ill-fated Hibernia, in darkness profound;
With the blood of thy heroes Kilcarr is wet,
Desolation and death round at large all around.
The streams of old Derry which silver were called,
By the sweet bards of Orchard, in happier days,
Are tainted with murders and crimson'd with gore,
Choked up with carnage and stopt in their ways."

"Desolation" was indeed a very fitting description to give to the patrimony of the Clonmullen sept, for Cromwell seems to have determined to take every precaution that they should give him no further trouble, and he ruthlessly transplanted the whole tribe, so that from Newtownbarry to the Nine

Stones high up on the side of Mount Leinster, not one farmer of the name of Kavanagh remains to tell where once that warlike sept was located; the plough passes over the green field, where the strong Castle of Clonmullen stood; and, although the beautiful mountain valleys that are to be found between Newtownbarry and the Nine Stones, are now inhabited by hardy, thrifty, industrious farmers, the population is of comparatively modern growth, and the old men will tell you that their fathers and grandfathers told them, that when they settled there, the land had lain so long desolate, that the furze bushes had grown into forest tress, in which the magpies built their nests. When the military despotism of Cromwell had passed over, and the king got his own again, there was not one of the Clonmullen Kavanaghs who could claim the beautiful patrimony of their ancestors; for, as I have already mentioned, the last of the chieftains of Clonmullen died childless in a foreign land, and the estates of the family were granted to Arthur, Earl of Anglesey. I have called those estates a beautiful patrimony, because it would be difficult to find a much more picturesque and charming mountain scene than that which can be enjoyed by those who drive from the well-built, thriving, and beautifully situated little town of Newtownbarry, to the Nine Stones. The contrast between the highly-cultivated valleys and the purple heath-covered mountains, on which the lights and shadows are ever playing, forms a lovely picture; and when visitors have arrived at the highest point to which they can drive, the whole County Carlow, and miles beyond, lies spread out in one vast panorama before them. Mr. Bowden, of a hundred years ago, was as much impressed with the beauty of his surroundings and the courtesy of the inhabitants, as visitors are at the present day, and he seems, during his very short visit, to have thoroughly enjoyed himself. He stopped at the hotel of Leonard Brown, a large house in the village, which has been purchased within the last few years for a clergyman's residence, and he received an invitation to dinner from the Rev. Mr. Purcell, the parish priest. At his neat cottage residence at Askahey he found a dinner party assembled to meet him, which included Mr. Pasley, Mr. De Renzey, and Mr. Dunne, (of Clonegal), Mr. Cummins and his son (of Kilcarr), the Rev. Mr. M'Daniel, Mr. Hill (of the Cross roads), and Mr. Lacy (of Johnstown, a notable distiller, whose distillery was situated on the site of a mill, now in ruins). Many of these names are no longer known in the valley, but it is worthy of remark, that the parish priest's dinner party seems to have consisted in nearly equal numbers of Protestants and Roman Catholics. Mr. Bowden admired everything that his very short sojourn enabled him to see, particularly the residences close to the village, of Mr. Durden, of Huntington Castle, and Lieutenant Rowan, of Lower Kilcarr. He also admired the pretty thatched cottage called Upper Kilcarr, where subsequently Mr. Tighe (of the Woodstock family), and his wife, the gifted poetess, and author of "Psyche," lived.

I must not conclude this sketch without thanking Mr. Edward Evans, of the Cornmarket, for his kind permission to use his copy of Mr. Bowden's "Tour."

J. FRENCH.

Clonegal, April, 1892.

THE SEWAGE DISPOSAL OF ISOLATED DWELLINGS.*

(Continued from page 89.)

DESCRIPTIONS will now be given of a few country-houses and other isolated buildings, where the methods just described have been carried into practical application. It is intended to confine these descriptions to works which have been in operation for a sufficient time to enable a just appreciation to be formed of their merits; and, in order to illustrate the paper, a number of diagrams have been prepared of the buildings in question, showing the general arrangements of the sewage works.

The first works which it is proposed to describe are those at the Rathdown Union, Loughlinstown, Co. Dublin. For many years great difficulties had been experienced in the attempts to dispose of the workhouse sewage. The pail system had been adopted some time ago instead of water-closets, in order to reduce the quantity of sewage as far as practicable. The laundry water was conducted into a closed tank, from which it was pumped into a cart and carried up by horse labour to the land at the back of the building; it was here thrown into a large manure heap, where the closet pails were also emptied; this heap being always very offensive in summer. But the rest of the slop water had still to be disposed of, and this, as I have already stated, is just as foul and offensive as water-closet sewage; it was conducted formerly through a large stone drain into an open pond, between the river and the road, outside the walls of the workhouse. The liquid collected in this pond, and percolated through the adjoining gravel-pits, gradually making its way into the river. In reality the pond was nothing better than an open cesspool, which in warm weather emitted an intolerable stench. Frequent complaints were made by residents in the neighbourhood and persons who had occasion to make use of the road, of the foul smells from this pond, and the rural sanitary authorities were, therefore, placed in a anomalous position of being guilty of the creation of a dangerous and offensive nuisance close to the doors of the boardroom were the guardians sat.

It is right to add that this flagrant breach of the Public Health Act by the guardians, who were supposed to administer it, was attributable to the difficulty which assailed them when they considered how this nuisance could be abated. No public sewer existed near the workhouse, into which the sewage could be conducted. The building is situated near the foot of the ground belonging to the union, which rises sharply behind it until it reaches the railway, so that any system of sewage disposal by gravitation over the land was impracticable.

Several attempts were made to obtain the necessary consent for the construction of a main outfall sewer to the sea, but all these efforts were strenuously opposed by the owners of property and the commissioners of the adjoining township. Eventually the guardians decided to consult Mr. Charles P. Cotton, M. Inst. C.E., Chief Engineer to the Local Government Board. Mr. Cotton recommended that the sewage should be conducted into a closed tank, and then pumped to the high land at the rear of the institution, and distributed over its surface. The guardians adopted his suggestion, and the writer was engaged to design and superintend the necessary works.

In this connection it may be mentioned that the water supply to the workhouse was obtained from the Vartry main by meter, at a cost of about £100 a-year. To save a portion of this heavy annual expenditure the guardians considered that it would be wise to make provision for storing and utilising the roof-water of the buildings. What is known as the "separate" system of drainage was, therefore, adopted, and two large rain-water tanks were constructed in the airing

* By Mr. W. Kaye Parry. Read at Institution of Civil Engineers of Ireland on 6th ult.

yards at the back of the institution. These tanks are 38 ft. square and 6 ft. deep, each tank containing 52,500 gallons. The total superficial area of the roofs is 3,850 square yards, so that one inch of rainfall represents about 18,000 gallons of water.

It should be mentioned that all the surface water from the yards is taken into the sewage drains, as the writer considered that the risk of pollution would be too great to take it into the rain-water tanks. A gravel filter is constructed at the side of each tank, by which the water is filtered on its way to the tank. The water is pumped by a steam pump into storage tanks at suitable levels, and is used in the laundry and kitchen. A reduction in the consumption of Vartry water has been effected by the storage of the rain-water, which amounts to a saving of about £50 per annum.

The sewage drains are all laid, in accordance with modern practice, on concrete with water-tight joints, in straight lines, with manholes at each change in direction. All the sewage, with the exception of that from the hospital, is conducted into two underground tanks, each measuring 15 ft. long, 10 ft. wide, 6 ft. deep, and containing 5,525 gallons. The object of duplicating the sewage receiving tanks is to enable one section to be cleaned out while the other is in use. Overflow pipes are taken from both sections, and conducted to the under drain from the irrigation ground, to which reference will be made hereafter. It was not thought prudent to take the hospital sewage into the tanks already described. It is therefore conducted into an independent tank, in order that it may be disinfected when necessary, so as to prevent the spread of infectious disease. Before the sewage enters the receiving tank, it is passed through strainers, so that the coarser particles and the suspended matter and other elements which are likely to choke the pumps are removed.

The dry weather flow of sewage is 30,000 gallons per week; it is pumped from the receiving tank four times a-week by a pair of small direct-acting steam pumps fixed in one of the back yards of the main building, and delivered into the distributing tank. This distributing tank is built of concrete plastered in cement, and situated overground at the summit level of the land near the railway. It is also made with a division wall, to facilitate cleansing. When the sewage has been pumped and one section of the distributing tank is filled, a sluice is opened and the sewage is conducted by a closed pipe carried in an embankment between the plots devoted to irrigation, to a central sluice chamber fitted with two sluices, by which the liquid can be conducted to either side. The distributing pipes run right and left from the centre chamber, and terminate at a pair of distributing chambers, each fitted with four sluices, and situated at the intersection of four of the plots devoted to irrigation. By opening one of the eight sluices in the distributing chambers, the liquid can be discharged into any one of the eight plots prepared to receive it. Each of these plots was accurately levelled, and at a depth of about 4 ft. beneath the surface a herring-bone system of agricultural drains was laid, discharging into a central main under drain connected with an outfall drain. These under drains are all provided with manhole chambers, to facilitate inspection and cleansing, and a sluice is also fixed on the outfall drains near the distributing tank. By closing the sluice, all the under drains can be filled and flushed out, and this prevents them getting choked up. The main outfall under drain is carried down the hill past the hospital, receiving on its way the rain-water from the hospital buildings and also from the lodge buildings. As I have already stated, the overflows from the sewage receiving-tanks are also conducted into this main drain. It is carried along inside the workhouse grounds in the front of the buildings for some distance, and it then crosses the road and delivers into the gravel-pits near the river.

It will be observed that this arrangement ensures that all the foul liquid shall be filtered through about 4 ft. of land before being discharged, and the effluent is found to be bright, clear, and free from smell. By sub-dividing the land into eight plots, and adopting the system of intermittent downward filtration, each of the plots receives its dose in succession, and then enjoys a long interval of rest, so that there is no fear of the land becoming sewage sick.

Part of the irrigation ground has been planted with osiers, which feed greatly upon the sewage, and flourish under the treatment. Italian rye-grass has also been grown. The master reports that during the year 1891, between eight and nine tons of prime hay were saved, which realised about £40, and a sum of £3 1s. was received for willows grown on the osier beds.

In practice it is found that the quantity of land devoted to irrigation—which is about three acres—is in excess of the requirements, so that, so far from the disposal of the sewage being any longer a difficulty, the only matter of regret with the master of the workhouse is, that there is not sewage enough for the successful cultivation of land set apart for the purpose.

It is probable that in the future the quantity of sewage will be largely increased if water-closets are substituted for the present pails, and it was with a view to this that a large area of land was laid out for irrigation. The works have now been in operation for some years, and have given great satisfaction, so that not only has a glaring breach of the Public Health Act been successfully cured, but the sewage and rain-water of the institution have been fully utilised. The fertilising value of the former, and the saving of Vartry water by the storage of the latter, have combined to yield a substantial pecuniary return more than sufficient to pay working expenses. The annual consumption of coal for pumping is twenty tons, and the cost in 1891 was £22. The attendant who has charge of the works has also other duties to perform, the estimated annual proportion of his wages chargeable to the sewage account is £40.

The total cost of the works was £3,100, and they were carried out, to the entire satisfaction of the writer and the Engineers of the Local Government Board, by Mr. John Pluck, of Kilmacanogue, County Wicklow. The second building I propose to refer to is Carton, Maynooth, County Kildare, the seat of his Grace the Duke of Leinster.

The sewage of this extensive establishment formerly discharged into the lake near the house, and, as the outfall was close to the carriage-drive, a filthy and unsightly collection of sludge and rank coarse weeds was formed, which created a great eyesore, and one of the objects of the new system was to get rid of this accumulation. The main outfall drain of the establishment was originally a large stone culvert, about 4 ft. high by 2 ft. 6 in. wide, and the house drains were either built of brickwork or imperfectly constructed with pipes. A complete new system of water-tight drains was laid down, those outside the building being of fireclay, and the portions under the mansion of heavy cast-iron, with leaded joints. All the drains were properly trapped, intercepted, and ventilated. The original main outfall drain was utilised as a subway for the new pipe, which is laid beneath it, and covered over with concrete. A sub-soil drain was also formed beneath the pipe, so that there are really three distinct systems in the culvert. The surface water from the yards passes down over the concrete bottom above the sewage drain, and with the subsoil drainage is still conducted into the lake: The outfall sewage drain delivers with a cast-iron bend into an intercepting tank, plastered inside in Portland cement. A galvanized iron wire bucket is suspended under the nozzle of the quadrant metal bend, and all the sewage flows through this bucket before it passes into the chamber. All the larger suspended matter, which will not pass

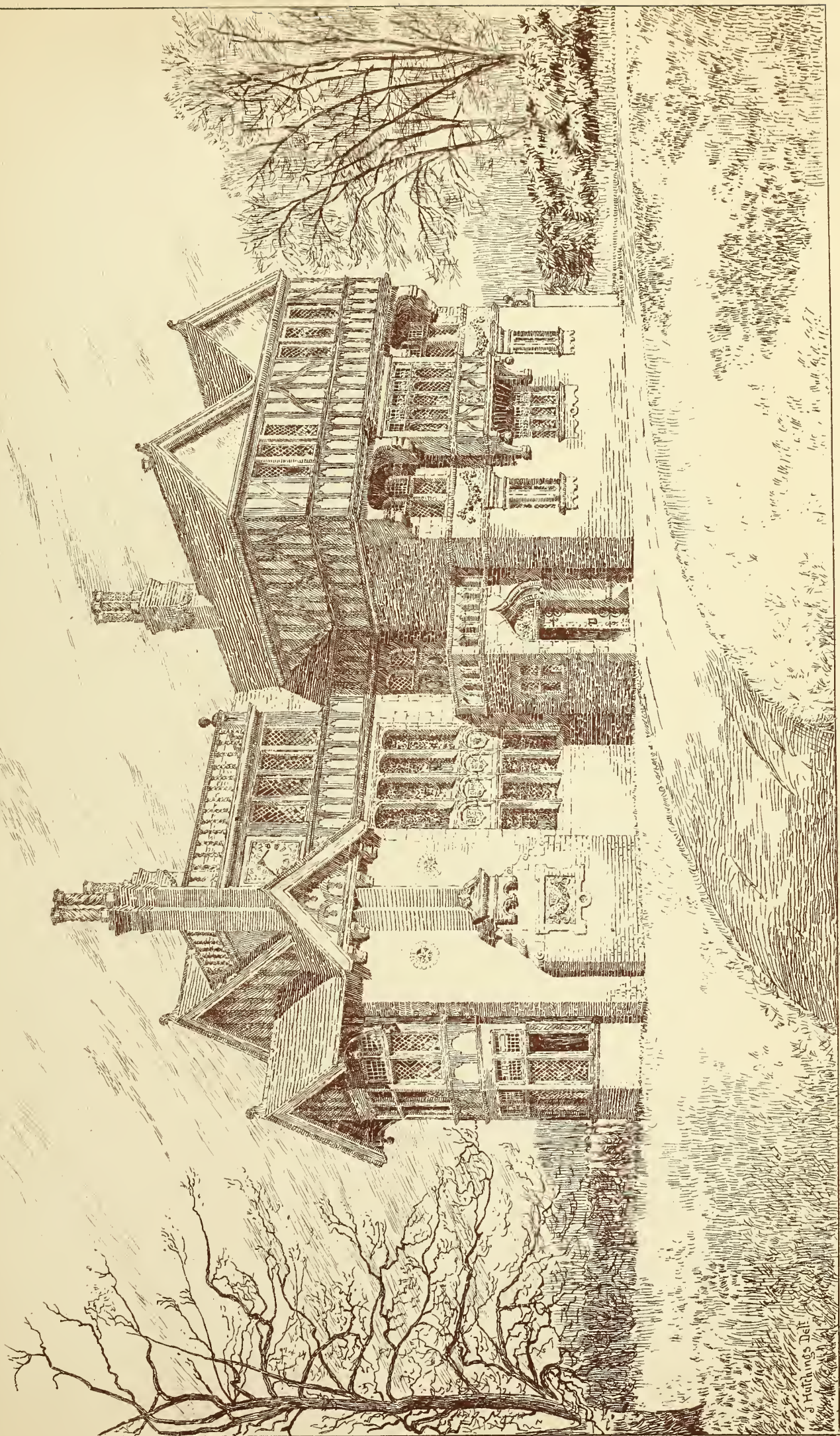
through the wire meshes, is retained in the bucket, which is lifted every day, and the contents are mixed with dry earth and removed. The chamber when full contains 380 gallons, and is provided with one of Rogers Field's automatic flushing syphons. The outfall drain from the chamber is carried across the stream by an iron pipe, and skirts along the foot of the rising ground until it reaches the land devoted to irrigation. This site is admirably adapted to its purpose. It occupies a secluded position near the lake; it is comparatively level, and consists of a porous loamy soil, the surface being about 3 ft. over the level of the water. The distributing pipe is of earthenware, and runs right and left from the central distributing chamber; it is fitted with eight sluices, from any one of which the sewage can be discharged. Iron gutters or carriers have been constructed, which can be moved about from place to place, and in this way the liquid can be conducted to all parts of the irrigation ground. The land is materially benefited by the irrigation with sewage; no nuisance whatever has been created, and no practical difficulty has occurred in the working. The objects of storing the sewage in a tank, and discharging it at intervals by a syphon, are three-fold. In the first place, the available fall from this tank into the irrigation ground is not sufficient to secure a good velocity of discharge unless this method is adopted. Secondly, by discharging the sewage in a volume it can be readily conducted, owing to its greater volume, to any part of the land under treatment; whereas, if it were allowed to dribble out through the sluices, it would never reach the more distant parts of the irrigation ground. Thirdly, the land enjoys an interval of rest between each successive discharge.

It must be understood that no cesspool is required in this system. The sewage tank above described is in no sense of the word a cesspool—it does not permanently retain the sewage, but discharges itself two or three times a-day.

In order to secure an abundant supply of water for the mansion, a turbine was erected at the waterfall at the end of the lake, and the spring water found near the lake is pumped up to a concrete tank situated at the top of the tower hill not far from the house. This tank is at a sufficient altitude to command the mansion, and fire-mains are taken from it and laid all round the building. An abundant supply of water is therefore always at hand for all domestic purposes. A pressure gauge is fixed in the steward's office, so that he can always tell the quantity of water in the tank, and give orders to turn on the turbine when necessary. By attaching the fire-hose to the hydrants, the sewers are periodically flushed out with clean water, and in this way they are maintained in a most perfect state of efficiency.

Fortunately for the success of the system, it is under the charge of a very clever land steward, who takes a great personal interest in working it, and no difficulties whatever have been experienced since the works were completed in March, 1890. The cost of these works, exclusive of the internal plumbing, which formed the subject of a separate contract, was £2,149, and the contractor was Mr. William Baird, of Duhlin.

I shall now give some particulars of the sewage disposal works at a gentleman's house at Celbridge, County Kildare. In this instance the sewage formerly discharged into a leaking cesspool, and overflowed into a ditch; it is now conducted into a distributing tank. In this case the solids are deposited by causing the liquid to pass under and over a series of divisions in the tank. In this way the suspended matter is thrown down to the bottom, and the liquid, when it reaches the last section, is discharged by one of Adams' automatic flushing syphons into the outfall drain. This drain is carried for a distance of 240 ft. through one of the fields near the house. By reference to the section it will be seen that the first pair of cross-drains must be filled with sewage



NEW HOUSE, CHISLEHURST.

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before either of the others come into operation. When the liquid rises to a certain level in the stand pipe, it overflows and passes down by gravitation to the second cross-drain, which is similarly arranged, and thence to the third. The object of this arrangement is to secure a complete distribution of the liquid over the land, which is of a somewhat retentive character. As long as the land round the first cross-drain is able to take the liquid, it continues to do so; should it become overtaxed, relief is obtained by the overflow, and the second cross-drain comes into operation. This method of distribution has been found to work very well, and it is only under exceptional circumstances that the sewage ever reaches the third cross-drain. In this instance the levels did not admit of the sewage being distributed over the surface of the land, and even the cross-drains are at a greater depth beneath the surface than the author could have wished, but it was impossible to get them up any higher without pumping. Even if the levels had permitted it, it would have been manifestly injudicious to arrange for surface irrigation in such a conspicuous position close to the dwelling. A liquid manure-pump is connected with the distributing tank, so that the liquid can be pumped out of it, and used for garden purposes. One advantage of this arrangement is, that the distributing tank does not need daily attention, as it will collect the solids for some months before it is necessary to clean it out; but, where circumstances admit it, the author strongly advocates the arrangement similar to that at Carton, Maynooth, as the distributing tank at Celbridge, if neglected for too long a period, will not only become offensive, but the cleaning of it will be attended with a considerable amount of smell, and will have to be performed at night-time. It was made a condition in this case that some system should be devised which would be practically automatic, and this is the nearest approach to it that the writer could devise.

The fourth case is that of a suburban residence at Terenure, County Dublin. All the sewage of the establishment, and also that of a neighbouring house, formerly discharged into an open ditch at the foot of the sloping ground upon which both houses were erected. This ditch was separated from the river by a stretch of level, sandy soil, about 200 ft. wide. The sewage lay in the ditch and caused an intolerable stench in hot weather, and, of course, any attempt to continue the drain to the river, would have been checked by the sanitary authorities. Sub-surface irrigation was, therefore, decided upon. A new system of water-tight drains was laid down, discharging into an intercepting chamber, designed so as to retain the solids, and fitted with one of Adams' automatic flushing syphons. The special clean-water feed pipe, which is the characteristic feature of this syphon, was supplied by an independent waste-pipe from a lavatory basin in the house, which was made to deliver into the feed-pipe. From the outlet of the intercepting chamber the outfall drain is carried down to the low-lying land already mentioned; it is then conducted into a number of sub-surface distributing drains. As soon as the intercepting chamber fills with sewage, the entire liquid contents automatically discharge themselves and pass down into the under drains, and from thence to the soil. Between each successive discharge, the land enjoys an interval of rest, during which thorough aeration takes place, and the soil is rendered fit to receive another discharge of liquid. The solids which are caught in the intercepting chamber are occasionally removed by hand. The situation of this house rendered it particularly well adapted for this method of sewage disposal, owing to its elevated position and the possession of a tract of low-lying, porous soil, in a secluded position near the river, where the sub-surface irrigation beds have been laid out.

The next instance is similar in many re-

spects to the one already described. The sewage of the establishment of a county gentleman near Oldcastle, County Meath, was formerly conducted through an old stone drain into an open dyke near the river, but separated from it by a tract of comparatively level pasture land. Incidentally it may be mentioned that, when the writer first inspected this house, very little of the sewage made its way into the ditch, as the large stone drain was choked close to the house, and the greater part of the sewage was percolating into a well under the scullery, from which water was daily pumped for household purposes. Under the new system, the sewage is conducted into a large intercepting chamber situated near the old dyke, and fitted with an automatic syphon. The low-lying pasture land is laid out with sub-surface drains, which are constructed with a very slight fall, and each line of drain follows the fall of the ground, so that the average depth beneath the surface is about 12 in. The effect of the sub-surface irrigation is very well shown. The track of each line of drain is clearly marked upon the surface of the pasture land by bright green line of luxuriant grass, nourished, no doubt, by the liquid sewage which is supplied to its roots. Instead of a foul and stinking dyke, in which a putrid, seething and fermenting body of sewage, formerly collected, there is now nothing to be seen but a field of pasture land, and there is no indication either to the sense of sight or of smell that the land in question is literally the sewage-farm of the establishment. The land steward, who at first viewed the engineering operations with scepticism and suspicion, has been completely converted, and admits that the sewage problem has been satisfactorily solved.

The last work which I shall deal with is somewhat dissimilar to the preceding ones. The writer was consulted some time ago by the owner of a house at Foxrock, Co. Dublin, who was threatened with proceedings by the sanitary authorities for allowing the overflow from a cesspool to pass into an open ditch beside the road, and thus create a nuisance. No ground was available over which the sewage could be conducted by gravitation, nor could the land between the house and the road be utilised for sewage treatment. A concrete tank was therefore formed close to the house, into which the sewage was conducted, whilst a separate system of clean-water drains was laid down to carry off the roof-water, which is still allowed to flow into the ditch already mentioned. The sewage is lifted by means of a hot-air pumping engine to a height of 20 ft., measured from the bottom of the tank, to the distributing chamber formed in some meadow-land at a high level at the back of the house. Here a system of subsoil distributing pipes has been laid down about 12 in. beneath the surface, and so designed that the liquid flows equally over the entire area under treatment. The solids are deposited in the receiving tank, and are occasionally removed by hand, and the liquid is partly utilised for subsoil irrigation in the manner just indicated, and can also be pumped into a small tank in the garden, and used for manuring the vines and strawberry-beds. The engine is managed by the gardener, who confesses himself quite satisfied with the arrangement. The system has been in operation for the past twelve months, and the total quantity of fuel consumed in that time for the engine has been two tons of coke at 22s. a ton, equal to £2 4s. per annum for pumping. The sewage receiving-tank is pumped out every second day, and the quantity pumped is 470 gallons.

The engine and pump were manufactured by Bailey of Manchester, and the pump is fitted with a special ball valve to make it suitable. The engine consists of a cylinder closed at one end by a steel pot, and at the other end by a piston; the steel pot is fixed within the stove, whilst the cylinder is surrounded by a water jacket. The engine is fitted with a speed governor, which may be adjusted by hand, and it is kept at work by the alternate heating and cooling of the air

within the cylinder, the air being caused to travel backwards and forwards by a loose-fitting piston within, which is worked by the engine from the outside by means of a piston-rod passing through the front or driving piston. The air being used over and over again, there is thus no exhaust, and there are no valves to wear out or stick fast. The furnace will burn almost any fuel, and the attention required is so simple that an intelligent lad may learn to work it in a few hours.

The writer trusts that the foregoing examples will afford sufficient evidence to show that the disposal of isolated buildings presents no insuperable difficulties, provided the owners are willing to go to the expense of a complete system of works.

THE SCULPTURE FOR BOMBAY MUNICIPAL BUILDINGS.

THE new Municipal Buildings at Bombay, which bid fair to be by far the finest group of modern edifices in the Indian Empire, are now fast approaching completion. The sculpture that is to beautify the exterior and interior of these public buildings has been in course of creation in Mr. Harry Hems' studios in Longbrook-street, Exeter, for nearly two years, and several shipments of it have taken place from time to time. Another lot consisting of five colossal animals with wings extended, sitting upon their haunches and bearing shields having the arms of Bombay thereon, has been despatched from the city, and is now on board the s.s. Kirby Hall en route for Bombay. They are destined to surmount the various gables of the building, and are very boldly carved. Major Davis, F.S.A., the City Architect of Bath, represents the resident architect (Mr. Stevens) at Bombay, and, during a recent visit to the sculptor's studios, was very happily photographed, grouped by the side of one of these Indian monsters, together with Messrs. Greville C. and Harry T. Hems, junr., by Mr. Long.

CORRESPONDENCE.

"THE HISTORY OF THE CHURCH AND PARISH OF ST. MICHAEL THE ARCHANGEL, DUBLIN."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In your published list of Prebendaries I find the name of "John Brookbank, M.A."

"1647-1660.

A Prebendary of Kilmanagh, in the Diocese of Ossory, 1636, which he resigned in 1647."

Having recently discovered a tombstone laid within the walls of the old parish church of Kells, Diocese of Ossory, I send you a copy of the epitaph, which is surmounted by an incised coat-of-arms.—

"Here lieth the Bodys
of John Kenan of Grove
Begg who Dyed the 4th Day
Of May 1712. In the 85th year
Of His age and Jane Kenan
Als. Brookebanke Dyed the
24 Day of May 1689. In the
58 year of Her Age."

I think it probable that Mrs. Kenan was a daughter of the said John Brookbank, M.A.

The coat-of-arms would indicate that John Kenan was a man of some position; but I have been unable to identify Grove Begg with any existing residence in the County of Kilkenny. There is a residence, with large farm attached, near Graigue-na-managh, called Grove. Grove Begg is not given in "Leet's Directory of Country Residences," &c., published in 1814.—Yours, &c.,

J. G. ROBERTSON.

P.S.—The letters of epitaph are all incised capitals.

THE HISTORY OF
THE CHURCH AND PARISH OF
ST. MICHAEL THE ARCHANGEL,
DUBLIN.

(Continued from page 93.)

PREBENDARIES OF ST. MICHAEL—(Continued).
(1541-1876.)

Collected from Cotton's "Fasti," the Vestry
books of St. Michael's, and other
authentic sources.

1787-1789. JOHN DRURY, M.A.

Elected Nov. 1st; admitted next day; installed Nov. 9th. In 1789 he resigned this Prebend for that of St. John's.

John Drury obtained a Scholarship in T.C.D., 1735; B.A. *Vern.*, 1736; and M.A. *Æst.*, 1739. He became Curate of St. Peter's and Donnybrook, in 1753; Prebendary of Stagonil, 1758-1771; Prebendary of Kilmacallway, 1771-1791. He was also Chancellor of Kildare, 1775-1791; Prebendary of Currograngemore, Diocese of Ross, from 1780 to 1782; and, from 1781 to 1791, a Vicar-choral of Cork. He was (1778-81) Stearne Catechist. He died at his residence, 38 Cuffe-street, Dublin, in January, 1791.

1789-1791. WILLIAM DOBBIN, D.D.

He was elected July 6th; admitted and installed July 10th. On 15th Feb., 1791, he resigned this stall and accepted the Prebend of St. John's.

William Dobbin was elected to a Scholarship at Trin. Coll., Dublin, in 1750; and to a Fellowship in 1759. He graduated B.A. *Vern.*, 1752; M.A. *Vern.*, 1757; B.D. *Æst.*, 1762, and D.D. *Æst.*, 1772. He resigned his Fellowship in 1768 for the Precentorship of Clogher and Rectory of Enniskillen, to which he was instituted 6th Aug., 1768, and which he exchanged in 1772, for Finglas, Artane, and Ward, Diocese of Dublin, with Dr. Thomas Smyth.

In 1789 he was elected Prebendary of St. MICHAEL'S, from which he passed to St. John's in 1791; to St. Michan's in 1797, and to the Rectory of St. Mary's in 1809, where he died in 1823. At each step of his Dublin promotion he obtained a faculty to hold Finglas in addition, where he made his home. He had also a residence at 39 Castle-street. He was married at St. Ann's, in 1789, to Miss Catherine Coote. (See Dr. Hughes's *S. John's*.)

1791-1797. GEORGE GRAYDON, I.L.B.

Elected Feb. 15th; admitted July 27th; and installed next day.

George Graydon graduated at Trin. Coll., Dub., B.A. *Vern.* 1774; and LL.B. *Vern.*, 1782. In 1802, he became 3rd Canon of Kildare. He also held, by faculty, dated 3rd Nov., 1789, the Rectory of Killishee, Diocese of Kildare, and Burrishoole (Tuam). In 1797, he was elected to St. John's, Dublin. Dr. Hughes records that, in 1801, he received the thanks of the vestry of that parish for his attention to the poor. He died in 1803.

1797-1798. ARTHUR MCGWIRE, M.A.

Elected Jan. 14th; admitted and installed Jan. 16. In 1798 he resigned, and was made Rector of St. Thomas', Dublin, to which benefice he was presented by the Dean and Chapter of Christ Church Cathedral, Dublin (on decease of Rev. Thomas Paul, LL.D.), licence dated 26th Sept., 1798. The following members of the Chapter voted for Mr. McGwire's appointment:—

GEORGE LEWIS, KILDARE, Dean.

John Robinson, Chanter, by his proxy, Marmaduke Cramer, Chancellor.

Robert Fowler, Archdeacon of Dublin, by his proxy, the Dean.

William Dobbin, D.D., Prebendary, St. MICHAEL'S.

George Graydon, Prebendary, St. John's

James Gibbons, *Not. Pub. Reg.*

Arthur McGwire was collated to the 3rd Canonry of Kildare, *vice* Graydon deceased, 4th June, 1803; he had been also Chancellor of that Church from 21st March, 1791, and held both dignities until his death in Jan.,

1843. He was buried in his Church of St. Thomas', Dublin.

1798-1801. JOHN WM. DUDLEY RYVES, M.A.

He was elected Oct. 12th; admitted Oct. 20th; installed Oct. 22nd.

John William Dudley Ryves was nominated 21st Dec., 1790, by the Rt. Rev. George Lewis Jones, Bishop of Kildare, as Dean of Christ Church Cathedral, to the Perpetual Curacy of the Union of Monkstown, Co. Dublin, and was licensed 21st Jan., 1791. He was collated to the Rectory of Kildrumfer-ton (Dio. Kilmore), on 25th Nov., 1788, and held that benefice with this stall by a faculty dated 8th Feb., 1799. He died in 1801.

1801-1823. RICHARD GRAVES, D.D.

A Senior Fellow of T.C.D., and Professor of Divinity in the University; elected March 31st; installed April 13th. In 1803 the Dean and Chapter elected him to the Prebend of St. John's; but he declined it, as not tenable with his Fellowship, that Prebend being valued at £10 in the King's Books. In 1809 he was elected Prebendary of St. Michan's, but that election was set aside as informal, and the presentation lapsed to the Crown. In 1814 he was appointed Dean of Ardagh; in 1823, he resigned this stall, and became Rector of St. Mary's, Dublin.

Richard Graves was born 1st Oct., 1763, at Kilfinane, in the County Limerick, of which place his father, an Englishman, was Vicar. He obtained a Scholarship in Trin. Coll., Dub., in 1782, and graduated B.A. *Vern.*, 1784; Fell., 1786; M.A. *Æst.*, 1787; B.D. *Vern.*, 1794; and D.D., *Vern.*, 1799.

"Dr. Graves's career in T.C.D., was distinguished, and he secured a Fellowship in his twenty-second year. He soon became one of the most earnest and popular preachers of his day. In 1798 he published "An Essay of the Character of the Apostles and the Evangelists." His desire for parochial duties was satisfied in 1801, by the gift of a prebendal stall in Christ Church Cathedral, Dublin, to which was attached the parish of St. MICHAEL'S, where he laboured assiduously and devotedly, especially amongst the poor. His "Lectures on the Pentateuch," published in 1807, are widely known, and for many years retained the position of text-book in the Universities. In 1809 he became Rector of Rabeny [faculty dated 1st Nov., 1809]; in 1814, Dean of Ardagh; and he was appointed Regius Professor of Divinity in Trinity College in the same year. The faithful discharge of the duties of these offices did not prevent the composition of numerous theological works. In 1823 he exchanged his prebend of St. MICHAEL'S for the richer benefice of St. Mary's, Dublin. During a tour in England, in 1827, he was attacked with paralysis. He was kindly tended by his friend Southey, and recovered sufficiently to return home, where he lingered until 31st March, 1829, when he died, in the 65th year of his age.

Dr. Graves was a man of sound judgment, well-trained intellect, and fertile imagination; his eloquence was copious, his manner was earnest, affectionate, and awakening; he was as noted for his simplicity as for his learning, for his benevolence as for his pastoral piety."—(Webb's "Compendium of Irish Biography.")

Dr. Graves lies buried in Donnybrook old churchyard, where a tombstone, with a suitable inscription to his memory and of "others of his kindred," covers his grave. In the Par. Reg. of St. Mary's, Donnybrook, is this entry:—"The Very Reverend Richard Graves, of [No. 9] Harcourt-street, in the parish of St. Peter [Dublin], aged sixty-five, was buried this 3rd day of April, 1829."—(See inscription on tombstone in Blacker's "Brief Sketches of Booterstown and Donnybrook," p. 40.) A collected edition of Dr. Graves's works, seventeen in number, has been published by his son, Dr. R. H. Graves, a Prebendary of Cloyne, in 4 vols., 8vo, 1840, a list of which is given in Cotton's "Fasti," vol. iii., pp. 190-191.

In 1865, a window of painted glass, repre-

senting the recapitulation of the law of Moses and the restoration of the Jews, was given to the College Chapel (T.C.D.) in memory of Dean Graves, at the expense of his son, Richard Hastings Graves, D.D., and others of his kindred.

1823-1826. CHARLES LINDSAY, M.A.

Elected March 5th; admitted March 13th; installed March 15th.

Charles Lindsay, born in 1790, was eldest son of the Right Rev. and Right Hon. Charles, Lord Bishop of Kildare, and Dean of Christ Church Cathedral, Dublin (1804-1846), who was 6th son of the fifth Earl of Balcarres, in the County of Fife (Scotland). He m. 1819, Miss Anne Rowley, by whom he had an only dau., Caroline Frances (Mrs. Rowley). He was collated to the Prebend of Harristown, in the Diocese of Kildare, on the 19th June, 1815, and on same day to the 2nd Canonry of Kildare. In 1818, 13th April, he was collated to the Archdeaconry of Kildare, and was elected to this stall [St. MICHAEL'S], 15th March, 1823. He resigned it in 1826, and was appointed Rector of St. Mary's, Dublin. He died, 23rd April, 1855.

1826-1829. THOMAS PERCIVAL MAGEE, LL.D.

Elected Oct. 12th; admitted Dec. 7th; and installed next day. In 1829 he became Prebendary of St. John's.

Thomas Percival Magee, 2nd son of Dr. William Magee, Archbishop of Dublin (1822-1831), was born on 27th Dec., 1796. He was educated at Trinity College, Dublin, and commenced B.A. *Æst.* 1817, and proceeded M.A. *Æst.* 1820, and LL.B. and D. *Æst.* 1827. He became Curate of Raphoe in 1820; and Rector of Kilcar (Raphoe), in 1822. In 1826, Prebendary of St. Michael's [elected 12 Oct., admitted 7th Dec., installed next day]; and in 1829, he became Prebendary of St. John's. In 1830, he was collated to the Archdeaconry of Kilmacduagh on 13th April, and was installed on the next day. In the year 1826, he was collated to the Prebend of Tipperkevin, in St. Patrick's Cathedral, and held it until 1830, in which year (on 16th April) he was collated and installed as Prebendary of Wicklow, in that Cathedral and Collegiate Church. In 1843, on the death of Rev. Arthur McGwire, he was elected as his successor, by the Dean and Chapter of Christ Church Cathedral, in the Rectory of St. Thomas', Dublin. He held the Archdeaconry of Kilmacduagh, the Prebend of Wicklow, and the Rectory of St. Thomas' until his death, which took place on 16th Dec., 1856. He was buried in his father's grave, in the centre of the old Churchyard of Rathfarnham, Co. Dublin. Archdeacon Magee married in 1827, Frances dau. of Sir A. De Butts.

1829-1837. THOMAS BEWLEY MONSELL, M.A.

Archdeacon of Derry; elected July 14th; admitted July 24th; installed July 30th. He resigned in 1837, on his being elected by the Chapter to the office of Precentor.

Thomas Bewley Monsell, 2nd son of Colonel William Thomas Monsell, of Tervoe, County Limerick (grandfather of the present Lord Emly), was educated at Trinity College, Dublin; B.A. *Æst.*, 1804; M.A. *Vernis*, 1807; admitted Deacon, —; Priest at Derry, 10th July, 1808; Curate of Desert-egny, 2nd Oct., 1810; of Drumachose, 14th April, 1811; licensed Perpetual Curate of Lower Fahan, 1817; and was collated to the Archdeaconry of Derry and Rectory of Dunboe, 16th Oct., 1820, by William (Knox), Bishop of Derry; elected Prebendary of St. MICHAEL'S, Dublin, 14th July; admitted 24th July; installed 30th July, 1829. He resigned this stall in 1837, and was elected on 23rd Feb. by the Dean and Chapter of Christ Church Cathedral to fill the office of Precentor; he was admitted 24th, and installed 25th Feb. The appointment to this dignity had been suspended by an order of the Privy Council, dated 28th Dec., 1836. Archdeacon Monsell married Miss Jane Rea, and had (with other children) two sons, who were in holy orders:

Rev. Charles Henry Monsell and Rev. John Bewley Samuel Monsell, Rector of Dunaghy, and (afterwards, 1847) of Ramoan, and Chancellor of the Cathedral Church of St. Saviour's, Diocese of Connor, who became (1853) Vicar of Egham, Surrey, and whose sacred poetry is well known. Archdeacon Monsell died of fever on 25th Nov., 1846, aged 61, and was buried at his Rectory of Dunboe, Co. Londonderry, just inside the churchyard gate, where a stone marks his grave, bearing this inscription:—

Here lie
The remains of
The Venerable Thomas Bewley Monsell,
A.M., who was for twenty-six years
Archdeacon of Derry and Rector of Dunboe.
He died in the 65th [?] year of his age.
I know that my Redeemer liveth
... and not another.—Job xix., 25-27.
Wherefore comfort one another with these words.
1 Thess. iv., 18.

Also the remains of Jane Bewley
C. Monsell, His wife, who departed
this life on the 2nd day of February,
1852, aged 83,
"They were lovely and pleasant in their lives,
and in their death they were not divided."
Also the remains of John Waller
Monsell, their grandchild, who died
an infant.

A window was also placed to his memory in the church of Ramoan, Diocese of Connor. And in the Chancel of the Cathedral of Derry there is a tablet with the following inscription:—

To the Memory of
The Venerable
Thomas Bewley Monsell, A.M.,
Archdeacon of Derry,
and Precentor of Christ Church Cathedral,
in the Diocese of Dublin.
This Tablet is erected
by brethren and friends who loved himself,
esteemed his worth,
and benefited by his example;
whose love at the same time,
that it might more fitly commemorate
the inmost
usefulness of his character,
endowed with the sum of £200
the District Church of Fermoy
built by his exertion
in the Parish of Dunboe,
over which he was Rector 26 years,
to the glory of that God whose he was
and whom he served.
He died on the 25th Nov., 1846,
aged 61 years.

Remember them which have the rule over you, who have spoken unto you the word of God: whose faith follow, considering the end of their conversation: Jesus Christ the same yesterday, and to day, and for ever.—Heb. xiii., 7, 8.

(To be continued.)

HISTORIC MEMORIALS OF LEIX.

(Continued from page 95.)

GENERAL OWEN ROE O'NEILL now found it necessary to call his army together, and accordingly he sent orders in all haste to his own proper regiment, quartered in the Counties of Wicklow and Wexford, as also to the Tyrconnell Regiment that was in Tipperary, to join him. He also sent orders to the Counties of Kerry and Limerick, that the Regiments of Iveagh, Sir Phelim O'Neille, and Alexander McDaniell should march to his quarters. But those officers were disposed to favour the Supreme Council's policy, and consequently they refused to stir, until they received orders from that body.

As Hugh O'Neill had many impediments in his way, it was impossible to expect his arrival at that time. Roger Maguire and Colonel Fox came to him. General Owen Roe had imperatively directed all the keraghts of the Queen's County and others with them to rendezvous at Maryborough, there to receive further directions. Meantime, General Preston, whose treachery O'Neill feared, had taken his station at Durrow, whence he marched to Roscrea, where he encamped, and where also he expected Inchiquin's forces. It was supposed their object had been to interpose between himself and Athlone. Whereupon, General O'Neill, desiring to consult for the Nuncio's safety, advised him to take his journey in time towards the house of Terence Coughlan, in Kilkolgan, King's County. As an escort, his own son, Henry Roe O'Neill, at the head of 200 horse, was to set out from Kilmensie; and as the General hoped to be in Athlone soon afterwards, in case he could not visit

Kilkolgan, the Nuncio had appointed to meet him at the former place.

Before leaving, however, the Nuncio and the Bishop of Ross had sent for McThomas, who arrived at Kilmensie, and he was there informed regarding the Supreme Council's action in reference to the Cessation, and the Excommunication which had been directed against them and their abettors. However, McThomas refused to follow O'Neill, and expressed rather his intention to side with the Supreme Council. Moreover, when the Nuncio sent an Italian priest with a copy of the Excommunication to be published in the Leinster army at Roscrea, McThomas, who was there, swore an oath, that were not the messenger a stranger and a foreigner in the kingdom, he should have that priest hanged. This menace was followed by another oath, that if ever he repeated such an action, without respect of his function or former circumstances, that priest should be executed. However, a dangerous mutiny was about to ensue, for many of the captains and soldiers began to murmur, when General Preston and the chief officers declared, that unless each captain took an oath of allegiance to the then government, they should resign their commissions.

When this was notified by drum in the camp, Captain Richard Geoghegan started out in front of his company, and told Preston publicly, he would not swear such an oath as contrary to the union and association of the whole kingdom. The captain thereupon declared he should resign his commission, and apply for a pass. His cousin, McThomas, reproved him for this conduct; but, fearing worse consequences might ensue, General Preston and his Major Officers drew Geoghegan aside, and telling him no oath should be exacted from him, the matter of retaining him as captain was thus settled. Leaving the camp in that state of discontent, the Italian priest returned to Kilmensie, where he gave an account of what he had witnessed to the Nuncio.

Availing of the convoy, the Nuncio set out from Kilmensie to Kilkolgan, where with his delegates he safely arrived, and the escort under Henry Roe O'Neill returned to Maryborough. The position of his father, the general, was now a difficult one to maintain, being in a midland country, having Ormond and the English royalists, with their adherents, opposed to him on every side. Preston's army was only removed from him by the very short distance of a single day's march. Moreover, Inchiquin and Taaffe had their respective armies in Munster, while both were opposed to him. Beyond the Barrow, Ormond's forces were stationed. Should Owen Roe move towards Ulster, three regiments of foot and two of horse belonging to Preston's Leinster army were guarding the passage thither, while that province was likewise distracted by factions. Again, in Connaught, Clanrickard raising all that province by proclamation and drum against O'Neill, he had little hope to find adequate support. Besides, four of his regiments with their officers revolted from him and adhered to the Council; while, he had not a much greater number who proved faithful; besides, his four regiments of foot and two of horse had not been filled up to the requisite military complements. Moreover, the Supreme Council would not now furnish these with pay, but they referred O'Neill to the Nuncio for support, and the subsidies he brought were now altogether exhausted.

Still the General resolved on his course of action. Calling his soldiers and keraghts together, he led them on from Maryborough towards Kilkolgan, in the County of Westmeath, and his army arrived there that same night. Some of the Leinster forces had already taken post to dispute his passage over the River Inny, as thinking he was about to march northwards. However, at an early hour next morning, he marched towards Moate, and thence he moved to Kregan, within a mile of Athlone. He entered that town; when in the night, the Nuncio left Kilkolgan by boat, and with a

guard. He joined General O'Neill at Athlone. While here, the General detached 1,500 men with five troops of horse, under the command of Colonel Roger Maguire and Lewis Moore, to the Counties of Wicklow and Wexford. He thus thought to create a diversion, if many in those parts should join with them. But, only Bryan M'Phelim Byrne and Charles Kavenagh, the son of Sir Morgan Kavenagh, with a few others took up arms, although the people were generally well affected, and furnished meat, drink, ammunition, and contributions for their support.

Meantime, General Preston had ordered his son, Don Diego, with a regiment of horse and another of foot, to follow General O'Neill's detachment. At this time, the Castle of Ballynakill was in possession of Roger Moore, and it was perfectly defensible. As had been supposed, Roger Moore should prove faithful to his trust, but the result disappointed O'Neill's expectation. Don Diego took the lordship of Ballynakill on his way, and entered the town, when he sent six or seven horsemen to the castle. While a good distance from the gate, one of the troopers cried out that they desired entrance. One of three soldiers that were within came to the gate, and enquired to what party they belonged. When informed truly, without more ado, that man opened the gate and left their horses within, and going directly to the castle without opposition, Don Diego was soon informed of the business by one of his troopers. He approached immediately, and left a garrison there on behalf of Lord Mountgarret.

Thence his march was directed towards the County of Carlow. There he had an encounter at Clonegall with Colonel Lewis Moore, who put him to route and captured a few of his troopers, who were afterwards released. General O'Neill had now left Athlone, and in order to recruit, had led his army into the County of Longford. The Supreme Council had given General O'Neill the lordship of Reban and Athy as enemy's land in mortgage for £2,000 until redeemed by the kingdom, while this was a conquest achieved by himself. He had held as prisoner after the Battle of Bunburb, Lord Montgomery, General of Horse; while after the Battle of Linchill, the Earl of Westmeath, Colonel of Foot, was made captive by the enemy. An exchange of prisoners was now effected; and for the difference in military rank, O'Neill was to have Reban and Athy, with the conditions already stated. Now, however, the Supreme Council were about to deprive him of money and mortgage, as well as procuring the respective releases of the prisoners, by sending Don Diego Preston with a force to besiege Athy and Reban; and, about the end of July, he marched in that direction with five or six regiments of foot and two of horse.

Only two foot companies were left for the defence of those places. They demolished that part of the town between which and the castle ran the River Barrow. Then the bridge was broken. Captain Shean O'Hagan was Irish Governor of the town and castle. He took advantage of a stone house, one story and a-half high, at the end of the bridge, and a great oven built on a former occasion by General O'Neill when about to advance on Dublin, and there he placed detachments for defence. No less than eighteen pieces of ordnance were levelled against the oven, which proved a chief obstacle to the besiegers. However, this little availed, and frequent sorties were made from the house upon the assailants. Then the latter attacked in force the house and oven, not with the expectation of carrying them by assault, but to scale a strong scone near the wall, so as to block up the besieged, and to hinder them from making future sallies.

Afterwards, they began to undermine the oven wall, intending to leave a firkin of gunpowder in the mine to blow up oven, house, and defenders. Meantime, the latter began to make perforations through the wall, and then fire was opened on the assailants, who caused the firkin to explode, without doing

any hurt to the defenders; but, on the contrary, the explosion was attended with great loss to themselves. This mishap caused them to desert their lodgment, when the defenders followed them, burned and levelled their sconces. The assailants were greatly disappointed and discouraged by their failure, while the Irish were emboldened to hold out, until succour could arrive.

(To be continued.)

DAMP WALLS— A NEW AND EFFECTUAL REMEDY FOR THEM.

It is a fact too well known to be insisted upon, that not a day passes without some new invention or other being brought before the notice of the community. One particularly, which comes within the programme of the IRISH BUILDER, is that of the EXCELSIOR ENAMEL—a material which has been introduced by Messrs. Martin, Son, and Co., of St. Stephen's-green. It has been under trial for many months, and has, we understand, been satisfactorily proved to be the very best remedy for Damp Walls that has ever been submitted to public notice. In exposed situations on the Hill of Howth, it has been largely used on lately-constructed houses, and the best results obtained from it.

"Walls may be made damp, not only by water rising in them, but by rain driving against them, and by water running down from the roof in consequence of the stoppage of a rain-water pipe. The latter cause is simple, and easily remedied, but the former is far too frequent in cheaply-built houses. . . . There is difference of opinion as to the advantage or disadvantage of the walls of a house being porous, as bricks are when dry, and Prof. Chaumont seems to think that in our climate the porosity of the walls is not a point we need trouble ourselves about maintaining. Still, in Simpson's opinion, with the ordinary arrangements of houses as regards supply of air and ventilation, walls absolutely impervious to air, and therefore to water in a gaseous form, will almost always be more or less damp on the inside."—[Spon's Manual.]

Many remedies (so called) have been introduced into the market from time to time, professing in each case to do great things, but have invariably failed, and shown to be miserable failures. To those who are inquiring for an article that will prove effectual in preventing damp and mildew in their houses, that under notice should not be passed over.

The EXCELSIOR ENAMEL is, we are assured, invaluable in cases where it is desired to paper, paint, or colour new walls or walls which have been repaired or newly plastered, without waiting for them to become thoroughly dry, as, after a coat or two of it, the work may be almost immediately proceeded with, without fear of any damp showing through. It may be also used with great success for painting the inside of baths, water-tanks, &c., as it effectively prevents rust, &c., and sets as hard as marble.

We have just learned that the Commissioners of Irish Lights are considering the suitability of the "Excelsior Enamel" for use on their lighthouses.

As we are at present making a trial of Messrs. Martin's preparation, upon a wall which became saturated with rain-water during the past winter, we may hereafter perhaps be prepared to lay before our readers

the results of its effect on the wall which we have subjected to the process.

[See advertisement on another page.]

NOTES OF WORKS.

At the recent sittings of the Belfast Presbyterian Synod, it was agreed to recommend the erection of four new churches in that city, viz., in York-road, Duncairn Gardens, Woodville Park, and Springfield.

Tallaght Parish Church, and the Mission Church, Townsend-street, have recently been effectively heated by Messrs. Maguire and Sons' hot-water heating apparatus—the former by the double-safety small bore, and the latter by the low pressure.

The building of the proposed new Catholic Church at Borrisoleigh will be immediately commenced by the contractor, Mr. Thomas Williams, of that town, who has been entrusted with the work, the estimated cost of which is about £5,000. Mr. W. G. Doolin, M.A., is the architect.

The Christian Brothers of Waterford are at present carrying out at Newtown, close to the park in that city, the erection of "De La Salle Training College." The foundations are being laid with concrete in the most substantial manner, and the material is taken chiefly from quarries at the Kilkenny side of the river. The dressings, &c., will be of granite from the Ballyknocken quarries, Co. Wicklow. Mr. George Nolan is the contractor, and the work will amount to about £21,000.

One of the oldest established clothing emporiums in the city—that of Mr. B. Hyam, Dame-street—has undergone within the past few months extensive alterations and improvements, both internal and external. Inside the improvements are on a large scale, and a special department for juvenile clothing has been added, which supplies a want that was long felt in the establishment. Mr. T. Hampden Shaw designed the improvements which entailed an expenditure of over £1,000, and the work was done by Messrs. William Conolly and Sons, with the exception of the painting and decorations, which were carried out by Mr. McCulloch.

At Christ Church, Cork, some important improvements have been made by Mr. Harry Hems, of Exeter, from the designs and under the immediate direction of Mr. W. H. Hill, architect, of Marlborough-street, Cork. The apse is circular, and this has been panelled with wainscot oak, and a handsome reredos of the same material placed at the eastern end. The reredos is divided into three compartments. In the central one the vine is exquisitely carved, and in the flank ones is carved wheat. Above is a raised inscription: "TILL HE COME." The work is of classical design, and was first used at Easter. Members of Mr. Hems' staff placed the work *in situ*, under Mr. Hill's careful personal supervision.

ELECTRICAL-MEASURING INSTRUMENTS.*

THE rapid development of electric lighting had called into existence a number of measuring instruments designed expressly for the use of electrical engineers. This paper consisted, mainly, of a critical description of these instruments.

Although volt-meters and ampere-meters generally differed in their windings only, it was advisable to design volt-meters to read clearly over a small part of their scale, while ampere-meters should be equally legible throughout the whole of their ranges. All volt-meters and ampere-meters should be direct reading; turning milled heads and co-efficients were not admissible in modern electric-light instruments. Volt-meters should absorb as little power as possible, as

every watt taken was equal to the interest on £1. Horizontal dials and suspension fibres or compass-points were to be avoided. The simplest soft-iron instruments contained a small needle inside a coil. The needle tended to arrange itself in the axis of the coil, the torque being opposed by gravity or springs. Instruments of this type had been made by Miller, Crompton, Statter, Lord Kelvin, and others. In Cunynghame's form the solenoid had an iron core. In the Schuckert, Walsall, Evershed, and Hartmann and Brann instruments, the soft-iron needle moved laterally into a stronger field, the field being modified by suitable fixed iron cores. The attraction of a solenoid upon a small soft-iron core was utilised in volt and ampere-meters by Lord Kelvin, Kohlrausch and Dolivo-Dobrowolsky, and Ayrton and Perry. The inventors last named employed their twisted slip to give large readings. Messrs. Crompton and Kapp in England, and Elihu Thomson in America, had made instruments whose readings depended on the relative intensity of field produced by solenoids with and without iron cores.

Permanent magnets fell into undeserved disrepute a few years ago; but it was now more generally realised that they could be safely employed in instruments of the highest class. Carpenter and Ayrton and Perry used permanent magnets for providing a constant controlling field in 1881, but Lord Kelvin's lamp-counter was one of the few survivors of this class. Instruments with permanent needles were made by Paterson and Cooper, Latimer Clark, Muirhead and Co., and Siemens. The moving coil was used in Weston's instruments alone, though the Deprez-D'Arsonval galvanometer might almost be called an electric-light instrument. The Weber dynamometer survived in the Siemens dynamometer and in Lord Kelvin's balances. The Cardew and one form of the Ayrton and Perry instrument depended on the expansion of a fine platinum iridium wire heated by the current to be measured. Electrostatic volt-meters were made by Lord Kelvin and Swinburne and Co.

The meter was by far the most important instrument, as the whole profit or loss of a station depended on its accuracy. The accuracy of a meter, within one per cent. or so, should be guaranteed, as a very small error made a large variation in the profits of a station. The chief faults in commercial meters, besides inaccuracy, were:—(1) Not starting until a large load was on; (2) Absorbing power in shunt circuits; (3) Absorbing power in the main circuit and reducing the light of the lamps; (4) Getting out of order through the use of mercury; (5) Needing frequent winding up; (6) Wearing out through rapid movement of working parts; (7) Stopping on account of insects or damp; (8) Costliness. Chemical meters had been used by Edison abroad, and by Wright in this country.

The majority of meters consisted of motors driving brakes of various kinds. The laws governing the brakes commonly used were not very well understood, and some forms of motor-meter appeared to be inaccurate. Faure first used one-turn motor-meters, and he had been followed by Ferranti, Edison, Borel, Miller, Teague, Perry, Weston Hookham, Hartmann, and Braun, and many others. The Ferranti meter for direct currents had a permanent field and an armature in the main circuit. Fluid friction regulated the speed. The Hookham meter had a permanent field magnet and an armature of several turns with a double commutator dipping into mercury, and a Foucault-current brake. The Hartmann and Braun had a one-turn armature, arranged as in Faraday's disk experiment. The Perry meter had a one-turn, or disk-armature completely submerged in mercury, and a very efficient Foucault-current brake. Joule meters, or watt-meters as they were often called, had the disadvantage of wasting power, and this might outweigh any benefits due to extra accuracy. In the Thomson-Houston meter the field was produced by coils in the main circuit, while

* Abstract of Paper, read on 26th ult., at the Institution of Civil Engineers (London), by Mr. James Swinburne.

the armature of high resistance was in shunt. Magnetic Foucault-current brakes were employed. The Hummel meter was on the same principle, but had an electro-magnetic brake, which converted it into a Coulomb meter. The Shallenberger alternating-current meter had a small double current motor, the rotation of which was retarded by an air-brake. The Wright meter depended on a different form of alternating-current motor. The Ayrton and Perry clock-meter had been put into commercial shape by Aron, and was one of the most successful types. Two clocks were connected by differential gear. One was made to keep bad time, gaining or losing according to the current. The differential gear registered the difference caused.

The numerous class of meter consisted of a watt-meter or ampere-meter with a clock and feeling mechanism. The various mechanical methods of carrying out this idea were numberless, and did not need separate description. Meters of this class had been brought out by the Brush Company, Brillé, Caudray, Frazer, Hartmann and Braun, Lord Kelvin, Siemens and many others. The only form of heat-engine meter that had been developed was that due to Forbes. The main current heated a small coil of wire and the draught of hot air produced rotated a small propeller windmill, and this worked the index train.

THE COOKE CENTENARY CHURCH, BELFAST.

ON Sunday last the above church (the foundation stones of which were laid in July, 1890) was opened by the Rev. George Matheson, D.D., Edinburgh. The site, which was secured in 1887, is part of the original park at Ormeau, the ancient seat of the Donegall family. The church, which covers an area of 8,000 square feet, is built entirely of white freestone, from the glebe quarries in County Down; and the building is designed in the thirteenth century, or early-English style of Gothic work. It consists of nave, transepts, and recess for the pulpit, and a spacious gallery at the west end. Accommodation will be provided for nearly 1,000 people. The principal entrance faces the Ormeau Road, and is set back 40 ft. From this door the buildings extend back 130 ft. The side walls rise to a height of 38 ft., and the ridge to about 56 ft. The long lengths of the sides are broken up by the transept gables and the session-room on the north side, and by a similar transept and an octagonal tower on the south side. Rising at the north-west angle, and containing one of the main entrances to the church, is the tower, with one of the staircases leading to gallery. The upper portion of this tower contains what will in the future be the bell-ringer's chamber. For the present, however, the tower terminates at the commencement of the belfry stage. The main entrance has a five-light tracery window over it, all kept together under one containing arch, and its shafts continue to the plinth course. The windows of the nave are long lancets, coupled together with moulded hoods terminating on foliated bosses. The transept windows consist of large plate traceries and lancets, grouped together with recessed jambs, and each window under one large containing arch. Entering the western door the vestibule is reached, which is 10 ft. wide, and the full width of the church 48 ft. At either end of the vestibule is placed a staircase leading to the gallery, one in the tower, and one in the "octagon," having separate entrances and connecting arches to the vestibule. The nave is 84 ft. long by 48 ft. wide, and the transepts 30 ft. wide, divided from the church by arches resting on clustered stone columns. The church is covered with an open roof, in which the chief constructive features are exposed to view. Supporting the gallery are Newry granite columns, with glebe stone caps and bases. The church is fully pewed, and all the joinery work is of yellow and pitch pine, with walnut moulding, and all French

polished. A large space is left between the front pew and the pulpit, for communion and other services. The pulpit is a very attractive piece of work, and on either side of it is a wrought iron gas standard, with two arms, and these, together with all the ornamental wrought iron work of the gas coronæ, brackets, and standards, were manufactured by Mr. George Jones, of York-street. At the back of the church are buildings containing a session-room and ladies' retiring-room, and minister's vestry, with separate entrances, &c. The church is heated by Messrs. Musgrave, with their small-bore pipes, and is very effective. Messrs. Henry Laverty and Sons, of Cambridge-street, Belfast, were the builders; and Mr. W. J. Fennell, C.E., Chichester-street, was the architect.

MISCELLANEOUS.

A MISSISSIPPI BRIDGE.—A great bridge across the Mississippi is shortly to be opened at Memphis. It will be the first to span that river below the Ohio, and is built at the identical spot where De Soto discovered the great stream. As it is also the intersecting point of all the great Western railroad systems except of the Vanderbilt roads, it will possess both historical and commercial interest. The trains hitherto have been taken across on steam ferry boats. Invitations have been sent to many prominent persons to be present at the opening, and if the state of the water in the Mississippi will permit, a representation from the American Navy will take part in the ceremonies. Speeches will be made on the spot where Calhoun uttered in 1845 his prophecy that at this point would cross the great transcontinental highway.

GREAT THOUGHTS.—The May instalment of this popular penny weekly, constituting five numbers of the ordinary issue, is of rare excellence, and thoroughly justifies its title. The sketches and portraits are of great interest, and are remarkable for their variety. Principal Fairbairn, Dean Swift, Benjamin Waugh, and Frederick Villiers, are all made to pass before us in the light of a criticism which loves to dwell on excellence rather than on defect; while Mr. Blathway's interview with Three Notable Women of America, is conceived and executed in his happiest vein. We thank him specially for his radiant notice of the life and work of Mrs. Julia Wurd Howe, and also for his quotation of her celebrated "Battle Hymn." It is unquestionably one of the finest poems of the kind in any literature, and is indeed worthy of comparison with the "Marseillaise," and with the celebrated "Scots wha hae" of Robert Burns. Among other original articles in this issue the Countess of Meath's "Visit to Teneriffe," and the Editor's papers on "Reading," in his "Pure Pleasures," series, are specially worthy of note.

THE RESPONSIBILITY OF COMPANY DIRECTORS.—If there ever is—and in these days of series of all sorts, it may be taken for granted there will be—a special set of manuals for men of business, one will deal with the director, his duties and his risks. The volume will not be complete unless it has much to say of the class of directors whose conduct was under the consideration of Mr. Justice Kekewich in the case of "Knox v. Hayman and others" reported lately. Those whose conduct was arraigned before Mr. Justice Kekewich were not the worst of their kind; but in his view they were by no means the best. The Canadian Pacific Colonization Corporation, whose affairs have lately been the subject of inquiry before Mr. Registrar Linklater, had many miscellaneous objects in view. It was to found and colonise the town of Queens-town, in North Western Canada. It was to send out emigrants, to dig for coal and other minerals alleged to be plentiful, and farm the fertile land. There was a smack of philanthropy in the project, supplemented by the promise of "guaranteed dividends at the minimum rate of £7 per cent. per annum." "This dividend," said the prospectus, "is secured by deposit with trustees of a sufficient amount of Government securities and first-class bank and insurance stock to cover same." And, in fact, a sum had been so invested. But, in February, 1889, the trustees sold out this fund, and invested it in the bonds of a Canadian railway, called the Stewiacke Valley and Lansdowne Railway Company. It is but fair to say that the directors took steps to alter the investment, and Canon Hayman, the chairman, out of his own pocket redeemed the bonds and paid the money into the trustees' banking account. But at the time when the prospectus complained of was issued, the substitute for "Government securities, &c.," was the investment in Stewiacke bonds. When Miss Knox, the plaintiff

in the action, applied for shares, and down to the time when they were allotted to her, no guarantee of "Government securities" existed. The prospectus was thus false in one important respect; was it also fraudulent? Mr. Justice Kekewich's answer is worth considering. Canon Hayman has held several ecclesiastical offices, and has been head master of a public school—experience perfectly compatible with his being a simpleton in matters of business. The Judge declines to absolve him of the graver charge, on account of his lolly; Mr. Justice Kekewich says that he is forced to believe that the statement about the dividends being guaranteed by "Government securities" was false, to Canon Hayman's knowledge. As to Mr. James Fortescue Harrison, another director, with much more experience of companies than Canon Hayman, the Judge arrives at a similar conclusion. "He (Mr. Harrison) had willfully shut his eyes, and therefore he must be held guilty of fraud." Dr. George Whittla, a retired Army surgeon, a third director, is more fortunate. His honesty is admitted at the expense of his intelligence. "He had no more business to join this board than a little boy in Chancery-lane. He was a perfect child in the hands of his directors. He said he did not ask questions, because he had no questions to ask." The upshot of the case is that Canon Hayman, Mr. Harrison, and Mr. Richards, a director who did not appear before Mr. Justice Kekewich to offer any explanation of his conduct, are made liable for the sum paid by Miss Knox for the worthless shares.

Illustration.

NEW HOUSE, CHISLEHURST.

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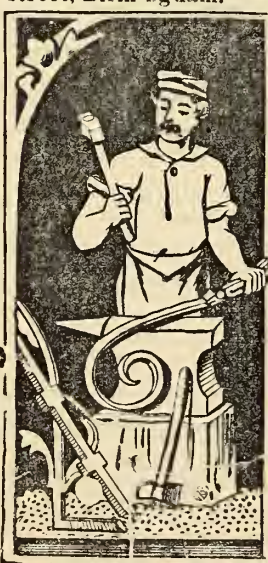
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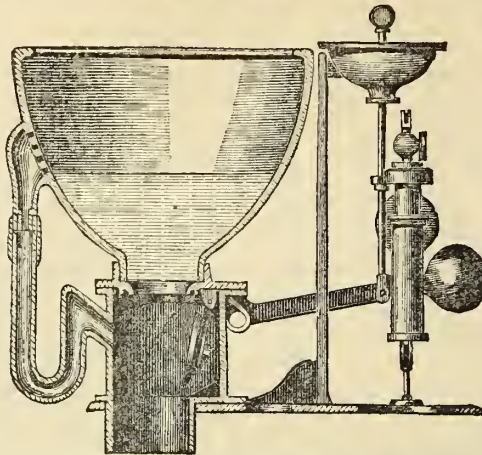
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VOL. XXXIV.—No. 778.

ST. MARY'S CHAPEL, WESTMINSTER ABBEY.



WE reproduce, as our illustration in present issue, a view of the interior of St. Mary's Chapel at Westminster Abbey, as given by Lewis Nockalls Cottingham in his work published in 1822, and from which we have photo-lithographed the plate to a considerably reduced scale. The view is taken from the centre of the small eastern chapel at the end of the chancel, looking west, King Henry the Seventh and his Queen Elizabeth are represented standing at the angles of their tomb, in the royal costume of the period. The tomb itself presents a woeful deviation from the architecture of the chapel, and very poorly accords with the magnificent brass screen that surrounds it. In his description of this view of the chapel, Cottingham writes:—"I have left out the banners, dress helmets, &c., in order that the masonry of the arches might be fully shown. . . . This tomb is a curious specimen of the introduction of the Italian style in the beginning of the reign of Henry the Eighth. The metal statues of Henry the Seventh and his Queen, upon the tomb, and the beautiful bas-reliefs which decorate the sides, were executed by Pietro Torregiano, a celebrated Italian artist, who entered into a contract with the executors of the King, in 1512, to complete the tomb, figures, &c., for £1,500. It was finished in 1518. The tomb is principally of black marble; but the figures, bas-reliefs, shields, and pilasters, are of copper, gilt."

On the 18th of May, 1868, Mr. M. Digby Wyatt, F.R.I.B.A., read at the Institute a Paper entitled "On the Foreign Artists Employed in England during the Sixteenth Century, and their Influence on British Art."* In noticing Pietro Torregiano, the artist of Henry the Seventh's Monument, he says:—"This distinguished artist, who was born at Florence in 1470, was taken whilst a youth into the academy founded by Lorenzo di Medici the elder, and directed by Bartholdo, a pupil of Donatello. Among the students were Buonarrotti, Rustici, Granacci, Niccolo di Domenico Sazzi, Lorenzo da Credi, and Giuliano Bugiardini, all Florentines; and Baccio da Monte Lupo, Andrea Contucci, of Monte San-Sovino, and other strangers. It was whilst they were fellow-students here that Torregiano broke Buonarrotti's nose with a stone. Torregiano described to Cellini how it happened, and we are told in the autobiography of the latter that Torregiano and Michael Angelo were copying Masaccio's frescoes at the Church of the Carmine together, and that the latter so bantered and tormented the former that, unable to endure it, he gave him a violent blow on the nose, which he would bear the mark of to the day of his death" (p. 29). Again—"The original agreement into which he entered for the execution of the monument to King Henry the Seventh and his Queen with the executors of that monarch, is given at full

length in Ackermann's 'Westminster Abbey' (vol. ii., pp. 140-143). It bears date, A.D., 1516, and is a most interesting document. He must have worked with rare diligence, for Stowe tells us that the tomb was finished in 1519. To describe such a monument here would, of course, be superfluous. All must alike have recognised how entirely unlike it must have been to anything done in this country before its erection. It struck, as it were, a key-note of an absolutely fresh pitch, and produced a 'great sensation' far and wide upon all who saw or heard of its grandeur. I am happy to have been able to procure an excellent cast from it for the Crystal Palace, in which, from the models having been gilt, as the original was, and from its being freed from the fine Gothic screen which surrounds the original, the merits of Torregiano's work may perhaps be even better studied than in the original. To bring the details as to architectural style under the reader's notice, I reproduce Cottingham's view of one end of the monument" [on a large sheet, sketched by the author, and lithographed by Owen W. Davis].—p. 229.

ST. GEORGE'S CHURCH, DUBLIN.

FROM the earliest period down to the close of the seventeenth century, St. Michan's was the only parish church in that quarter of the City of Dublin north of the River Liffey. But at that time, owing to the increase of the population and the extension of the city, it was found necessary to add to the number of churches on that side. For this purpose an act of Parliament was passed in the 9th year of William III., for dividing the old parish of St. Michan into three several parishes, to be named respectively—the new parish of *St. Michan*, the parish of *St. Mary*, and the parish of *St. Paul*; each to be independent of the other, and to have parochial rights as separate parishes, from the 20th November, 1697.

By this act it was provided, that the old Church of *St. Michan* should be the parish church in the new parish of *St. Michan*, and that the rectory thereof should be, and be called, the prebend of *St. Michan*, belonging to the Cathedral of Christ Church, Dublin, as the old rectory was; and that the same church with churchyard, vestry-house, &c., belonging to the said old parish, should for ever, after the said 20th of November, 1697, be for the use of the minister and parishioners of the said new parish of *St. Michan*.

By the above-mentioned act, "a considerable plot of ground was appropriated to the building of a church for the new parish of *St. Mary* on the south side of Mary-street, opposite Sir Arthur Cole's house, where the Lord Chancellor then dwelt."

About the same time, and by virtue of the same act, a third parish church was erected on "a plot of ground lying at the south end of Oxmantown Green, containing from east to west 120 ft., and from south to north 250 ft." This church has since been known as *St. Paul's* parish church.

Shortly after the erection of *St. Mary's* Church, the houses in the east end of that parish having increased very much in number, Sir John Eccles, for the accommodation of his tenants in this remote part of the parish, built, in 1719, a small church (*St. George's Chapel*) in Temple-street [now Hill-

street], on the north side of Britain-street, now known as "Little *St. George's* Church."

Subsequently, the houses and population still increasing in that neighbourhood, the parish of *St. Mary* was divided, and the new parish of *St. Thomas* was formed, and in 1762 its present parish church was built.

After the lapse of a few years, the city had increased so much to the north-east, that it was conceived necessary to create another parish in that district, and to erect a new parish church for the convenience of the inhabitants. For this purpose an act of Parliament was passed in the 33rd year of George III. (1793), disposing of a district adjoining the City of Dublin, the greater part of which was extra-parochial, and marking its boundaries, to be formed into a new parish, to be called the parish of *St. George*. By this act a piece of ground was laid out near the bank of the Royal Canal (east side, and a short distance north of Binns' Bridge, Drumcondra-road), and vested in trustees, for the purpose of erecting a new church and making a cemetery for the new parish; leaving, however, a power in the trustees to change the site, with the consent of the parishioners, and to build the church in any other place within the parish boundary that might be considered by them more convenient.

The trustees erected a temporary chapel on portion of this new burial-ground, pending the selection of a more suitable site. In the old Dublin Directories, from 1794 till 1809, this temporary chapel is described as the "Church of *St. George*, *Belvidere-street*. Thus in 1794, we find, under the head "Ministers, Churchwardens," &c., "Rev. Ellis Agar, Vicar of *St. George's* (Church to be built)"; in 1796, the "Hon. and Rev. John Ellis Agar, M.A., 18 Summer-hill, Rector of *St. George's*—Churchwardens, Richard Grace, North Great *George's-street*, and Hugh Skeys, Great *Britain-street*"; and, in 1798, the Ministers and Churchwardens of *St. George's*, *Belvidere-place*, were: "Rector, Rev. Charles Beresford, M.A., Beresford-place; Curate-assistant, Rev. J. Mauleverer, 8 Gardiner-street; Churchwardens, Charles Thorp, Gardiner's-place, and Maximilian Faviere, 18 Eccles-street." As no such street name appears in any old it appear in the Rev. Dr. McCreedy's carefully-compiled little work, "Dublin Street Names, Dated and Explained," perhaps *Belvidere-street* was the name the parish trustees intended to give the street which they purposed to make from Dorset-street to their new cemetery, now known as Hardwick-road, or it was a misprint for *Belvidere-place*?

Anterior to the year 1803, or thereabouts, there were no streets or lanes on the south side of Dorset-street, between Frederick-street and Gardiner-street Upper, except a narrow lane or passage (opposite Eccles-lane) leading to the Convent of the Poor Clares, which was then situated at the rear of Dorset-street. All the ground then lying between, and bounded by, Dorset-street on the north, Gardiner's-row on the south, Frederick-street on the west, and Gardiner-street Upper on the east, was part of the "Barley Fields." In 1802, the trustees appointed by the parishioners of the new parish of *St. George*, selected a site for their church on a portion of these grounds, just opposite Eccles-street. This site was most judiciously selected, being on nearly the

* See "Transactions," Session 1868-69.

most elevated ground within the circumference of the city. The plans were prepared by Francis Johnston, the eminent architect, under whose directions the building was erected, and of whom it may be said that this building is a permanent monument of his ability and taste as an architect. The adjoining grounds were judiciously laid out for buildings, and three new streets formed: (1) Hardwicke-street, opening into North Frederick-street; (2) Hardwicke-place, a crescent, opening into Dorset-street, in line with Eccles-street; and (3) Temple-street Upper, in continuation from Hardwicke-place to (Lower) Temple-street (now Hill-street). The two former streets are named after his Excellency, Philip Yorke, 3rd Earl of Hardwicke, who was Lord Lieutenant of Ireland, 1801-1806, during whose viceroyalty these improvements had been carried out.

In opening Hardwicke-street, the trustees of St. George's Church had a great difficulty to encounter, which was caused by a large building then known as the Convent of the Poor Clares, through whose gardens and portion of the premises the new street would run. But they surmounted that difficulty by purchasing, from the Dean and Chapter of St. Patrick's, a piece of ground on the east side of Harold's Cross Green, which they gave to the nuns as an equivalent for their property in Dorset-street.

St. George's Church stands completely insulated in the centre of a quadrangular area, surrounded by regularly-built houses, and terminating to the west in a graceful crescent, from which diverge three streets, viz., Hardwicke, Eccles, and Temple-streets.

Proceeding up Hardwicke-street, the visitor has before him the principal front of the building. It presents a noble tetrastyle Ionic portico, with columns $3\frac{1}{2}$ ft. in diameter, supporting an entablature and frieze, above which is a pediment; from behind the portico rises the steeple, comprising a heltry, clock-tower, and a spire, all of which, as well as the church, are highly ornamented. The steeple is in five stages above the roof: the first contains the bells [described further on], and is square on plan, ornamented at angles with Ionic columns, supporting an entablature continued all round, and in the centre of each side is a large circular-headed window, richly ornamented. Above this is the clock stage, the angles of which are adorned by large urns of admirable workmanship; and over the clock faces are festoons of carved stone, gracefully terminating at each side. The third stage is octagonal on plan, the angles of which are occupied by small pillars, and in the intervals between the pillars are panels, with a circular aperture in centre of each. At the next stage, the convergence of the spire, which also is octagonal, commences, and continues with the most gradual inclination to its termination in a ball and stone cross on the pinnacle. The total height from street level is 200 ft. The other three fronts are of the Ionic order also, but much inferior in dignity to the above.

On the frieze over principal the front there a boldly-carved inscription in Greek characters:—

“ΔΟΞΑ ΕΝ ΥΨΙΣΤΟΙΣ ΘΕΩ.”
[“GLORY TO GOD IN THE HIGHEST.”]

The portico rests on a landing accessible by a flight of steps the entire breadth of itself, viz., 42 ft., and the projection of the portico is 15 ft.

There are five entrances—one in front beneath the portico, which leads into the vestibule below the steeple, and two one each of the northern and southern sides. At the eastern end is a projecting building of 22 ft. in breadth and 40 ft. in length, which formerly contained a vestry-room and parish school. In the year 1880, under the advice of two Dublin architects, Mr. Thomas Drew and Mr. J. F. Fuller, the floors of this projection were removed, and a chancel provided in the space thus obtained. By this alteration the sitting capacity was increased to the accommodation of somewhat over 100 persons.

The interior is in a corresponding style of taste and magnificence: a large rectangular apartment, 80 ft. by 60 ft., is surrounded by a gallery ingeniously constructed. The lower storey of the church is encompassed by a passage or corridor, on the side walls of which the floor of the gallery rests, and, projecting beyond the corridor, renders the appearance of the church uncommonly light and elegant, the gallery seeming as if suspended in the air, and without any support except from projecting timbers, or, as they are technically called, cantalivers, which rest in the rere wall.

The entire building is cased with hewn stone; it cost about £90,000, the greater part of which was raised by a tax on the parishioners, and took about twelve years in building.

THE BELLS.

The tower contains a ring of eight bells, varying in weight from 8 cwt. to 22 cwt., the munificent gift of Francis Johnston, the architect of the church. The following inscriptions are on the bells:—

Treble—“God save the King. 1828.”
2nd—“Universal Benevolence.”
3rd—“God preserve the Church. Amen.”
4th—“Peace and prosperity to Ireland.”
5th—“We rejoice to ring for our Constitution and King.”
6th—“The Rev. W. Bushe, Rector; Rev. F. Bridge, Rev. J. Short, Curates, 1828.”
7th—“Glory to God in the highest and on earth peace, good will to men.”
Tenor—“These bells were all cast by Thomas Meares, of London, and were presented to the parish Church of St. George, Dublin, by Francis Johnston, Esq., the architect of said church, and by Mrs. Anne Johnston, his wife, 1828.”
The cost of the bells was £1,300.

Francis Johnston died on the 14th March, 1829, and was buried in St. George's Burial-ground, (east side) where a sarcophagus monument is erected over his grave, on the eastern panel of which is the following inscription:—

Underneath lie interred
The remains of Mr. FRANCIS JOHNSTON,
Who departed this life on the 14th day of March, 1829,
in the 69th year of his age,
Also,
Mrs. ANNE JOHNSTON,
Relict of the above-named FRANCIS JOHNSTON,
Who departed this life on the 13th August, 1841,
in the 72nd year of her age.

(See a memoir of him in the IRISH BUILDER, vol. i., 1859, p. 131.)

The Rev. William Bushe, M.A., was the first rector of St. George's new church; and the Rev. Thomas Lucas Scott, D.D., who is also Canon of Tassagard in St. Patrick's Cathedral, is the present rector. Dr. Scott is also Donellan Lecturer at the University of Dublin for the present year.

THE DISTRIBUTION AND MEASUREMENT OF ILLUMINATION.*

THIS paper was divided into three sections. The first dealt with geometrical principles; the second, with photometers; and the third, with the results of measurements made in the streets and public buildings in London. When light falls upon a surface, that surface is said to be illuminated. Illumination consists of two factors—candle-power and distance. The carcel-meter was proposed in 1882 as a unit of illumination. Mr. Preece showed that this was equal to a standard candle at 12·7 in., and proposed the name “Lux” for the English equivalent. The author has taken the candle-foot as a practical unit. The illumination of a horizontal plane at any point varies as the cube of the cosine of the angle of incidence of a ray of light falling on that point, when the candle-power and the height of the lamp are constant. Curves were given, showing this distribution graphically; illumination being represented as ordinates, and distances from the source of light as abscissæ. The distribution of the total light on a surface varies as the solid angle subtended by that surface at the source of light. The usefulness of a white reflector depends on the solid angle which it subtends, and not upon its absolute dimensions. The resultant illumination, due to a number of lamps spaced at distances apart, equal to once, twice, three times, and six times their height from the ground, was shown by a number of curves. The distribution of the light of a continuous-current arc lamp is peculiar. For angles of incidence greater than 50° it varies as the fourth power of the cube of the cosine of the angle of incidence. Light falling in a more vertical direction is largely reduced by the shadow of the negative carbon.

The object of street lighting is twofold—to mark out the street with beacons, and to provide illumination. Illumination begins to be useful when it is comparable with moonlight. Moonlight in this country rarely exceeds one thirty-sixth of a candle-foot, that is, a candle at 6 ft.; it is generally between one-sixtieth to one-hundredth of a candle-foot. The distribution of illumination in more general cases was treated geometrically; the variation of illumination due to the varying height of a lamp was discussed, and it was shown that there was no particular virtue in the angle of incidence, the tangent of which is $\sqrt{2}$. Calculated contour curves of equal illumination due to two lights at a distance apart equal to three times their height, and to three lights arranged in a triangle, at a distance apart equal to one-and-a-half times their height, were given, together with curves of illumination due to arc lights spaced in a similar manner. The use of diagrams to which the author gave the name of characteristic curves was explained. In several respects these resembled steam-engine diagrams. The co-ordinates were candle-power and area; the area of the diagram was a measure of total light, or power in an optical form. The maximum and minimum illuminations in any example could be seen at a glance, and the shape of the curve showed the quality or regularity of the distribution. Characteristics for a square and for a circular area illuminated by a single light, and for several arrangements of uniformly spaced lights, were given.

The second section on photometry alluded to the different attempts which have been made to supplant photometers by thermopiles, radiometers, and photographic methods. The complication of gas-testing apparatus was contrasted with the simple forms of true photometers, such as those of Bunsen, Rumford, and Foucault. A photometer was described, in which a shadow was thrown by a mirror upon a screen and a reflected beam of light was superposed upon the shadow; the whole screen was of a uniform tone when a balance was effected. In a direct-reading photometer, a rod was placed nearly in the

* Abstract of Paper, by Mr. Alex. P. Trotter, B.A. Read at Institution of Civil Engineers (London), on 10th inst.

plane of the two lights to be compared. Two shadows were thrown on a screen, and the position at which the two shadows were of the same tone could be read off on a scale. The illumination photometers of Weber and Mascart were briefly described. Mr. Preece's photometer of 1883 depended on the measurement of the current of a small glow lamp. The sixth power of the current was approximately proportional to the candle-power. The current was adjusted by resistances. The details of this photometer were discussed, and Captain Abney's method of rapid oscillations in photometric measurement was described. Various errors were introduced in this use of a Bunsen screen and by the colour of the electric lamp at low candle-power. In a photometer designed by the author, in conjunction with Mr. Preece, in 1884, a glow lamp was made to approach or to recede from a Bunsen screen. The motion was given by a lever rolling on a cam in such a manner that the illumination could be read upon a uniformly divided scale. A number of modifications of this photometer were tried during the past winter, and resulted in the construction of an illumination photometer, with which a large number of measurements had been made. Two glow lamps, $\frac{1}{2}$ and $\frac{1}{4}$ candle-power, were mounted in a long, blackened box. Either or both could be used at once. Four Lithanode cells supplied the current. A reflecting screen covered with white paper threw the light upwards through a star-shaped hole in a horizontal screen of cardboard. The reflecting screen was mounted on hinges and could be wound up by a fine chain, finally folding quite out of the light. The chain was wound upon a cam, and a hand or pointer was mounted on the axis of this cam. The cam was so shaped that a nearly uniformly divided scale was obtained. The scale was graduated empirically. Readings were taken when the illumination of the horizontal cardboard screen appeared to be identical with the illumination of the movable reflecting screen, visible through the star-shaped hole. The range of this photometer is from 2.5 to .001 candle-feet.

Measurements were made in the South Kensington Museum, in which illumination of about half a candle-foot up to three-and-a-half candle-feet were recorded. In Cannon-street Station the minimum was .025 candle-foot, and the maximum .4 candle-foot. In Charing-Cross Station the minimum was .05, and the maximum .5. Several sets of measurements were made in the city. The result of systematic measurement of part of Queen Victoria-street was given in contour lines of equal illumination. The maximum in an exceptional case was 1.1, ordinary maximum .3, minimum .025. Contour lines were constructed from a considerable number of measurements in Whitehall. The illumination in Great George-street, Westminster, was also measured. The maximum was .9, and the minimum .005. The author was assisted in the street measurements by Mr. W. Winny and by Messrs. J. Leggat, L. E. Pierce, and W. O. Wallace, students at Finsbury Technical College. Characteristic curves were drawn from these observations, and enabled the degree and the quality of the lighting to be compared. The paper was accompanied by an appendix, containing tables of the value of a bougie-meter in candle-power at different distances, values of $\cos^2 \theta$, and other powers of the cosine.

EARLY ORIGIN OF THE BRITONS.

FEW and very doubtful are the accounts of Strabo,¹ in reference to the distant British Islands; although it has been stated, that the Greeks, who, in former times, were adventurous navigators, had settlements along the sea-coasts of all the European

countries, and that these extended even to the British Islands. Such is the statement of St. Jerome,² who quoted as his authorities Varro's Books of Antiquities, Sinisius Capito, and the Greek writer Phlegon. Even some there are, who derive the name of Britain from a Greek word.³ Yet, it is generally allowed, that the Celtæ of Gaul were the first to cross over and people the British Islands.⁴

In the heroic period, hero-worship prevailed, and many renowned nations have derived their names from some imaginary or distinguished leader, whose courage and skill enabled him to succeed in war, so as to gain the admiration and confidence of his subordinate warriors. When we seek for the early, if not the oldest, form of British traditions, it will be found that Britain, or Briton,⁵ called the son of Isocon, gave denomination to his followers, and to that country where they dwelt, according to an ancient tradition. However, the name of this Briton appears to be subsequently resolved into Britus or Brutus.⁶ The generally received account has it, that Brutus was the younger son of Æneas, the celebrated Trojan leader and founder of the Roman Empire. It is thought he came with his followers from Bretagne, into the island, which was afterward named Britannia after him. According to some accounts, Brutus was the son of Sylvius, the son of Ascanius, son to Æneas.⁷ He is said to have been driven out of Italy. Thence he fled to the Islands of the Torrian, or Tyrrhene—a name for the Mediterranean Sea. Again, he was expelled by the Greeks from these Islands. Afterwards, he went to France, where he founded Torinis, or Tours. This narrative is said to depend on the statements of one Guanach⁸—probably an unknown Irish historiographer—and as certain writers relate, on the Chronicles of the Romans; but, for a more specific reference, we are at a loss to verify the accounts said to be contained in those doubtful authorities.

Some writers state, that Brutus first conquered that part of Gaul, which is now known as Bretagne.⁹ It is related, also, that he passed subsequently to the northern island. When he, with his followers, and his descendants, had filled it with inhabitants, the country received the name of Britannia.

In reference to various stories found in early British history, there are learned writers, however, who question old accounts,¹⁰ as deeming them inconsistent with genealogical and chronological calculations.¹¹ It is probable, that the native writers, Gildas,¹² the Wise, who lived and wrote in the sixth

century,¹⁴ and the authors of the Anglo-Saxon Chronicle, of uncertain date, gives us the most reliable ancient accounts regarding the Britons and their early history.¹⁵

The father of English history relates, that the Albion Britons derived their descent from certain Gaulish Britons, who migrated from Armorica,¹⁶ according to the earlier traditions. However, that Armorican tract of country, mentioned by Bede, was far more extensive than what was known as the province of Britany, in the northern part of France. When treating on the matter of early colonisation in Britain, the Anglo-Saxon Chronicle¹⁷ states, that those people who first inhabited that country were Britons, who came from Armenia,¹⁸ and afterwards their original settlements were in the south of that territory, eight hundred miles long and two hundred miles broad, which subsequently contained five different races, thus distinguished, viz., English, Brito-Welsh, Scottish, Pictish, and Book Latin. The Venerable Bede, in his well-known history, gives us an account of divers nations in the early times, and who came from other countries. These occupied by degrees the whole British Island.¹⁹ The first settlers, it has been generally supposed, were Britons. From these the island is said to have derived its name of Britain.

However, certain writers, treating about the first settlement of the Britons in the country of Britany,²⁰ have stated how Bede did not mean to say that the island of Britain derived its name from those colonists: But, to answer such remarks, if that had not been his intention, why did he touch upon the name at all. In their opinion, most probably, no foundation could be discovered for placing Britons in that province now called Britany before the middle of the fifth century. But, it does not thence follow, should we admit this supposition, that there were not Britons living in some other parts of the Continent.²¹

Commenting on a passage of Dionysius Periegetes,²² Hill asserts,²³ that there were no Britons in his time except such as lived in the British Islands.²⁴ It is remarkable

¹⁴ In his "Liber Querulus," or De Excidio Britanniz," and in his "Epistola."—*Ibid.*, pp. 1 to 46.

¹⁵ A very interesting work to elucidate this subject, is "Britannia Antiqua Illustrata: or, the Antiquities of Antient Britain, derived from the Phenicians; wherein the original Trade of the Island is discovered, the Names of Places, Offices, Dignities, as likewise the idolatry, language and customs of the primitive inhabitants are clearly demonstrated from that nation, many old monuments illustrated, and the commerce with that people, as well as the Greeks, plainly set forth and collected out of approved Greek and Latin authors; together with a chronological history of this kingdom, from the first traditional beginning until the year of our Lord 800, when the name of Britain changed into England; faithfully collected out of the best authors, and disposed in a better method than hitherto hath been done; with the antiquities of the Saxons, as well as Phenicians, Greeks, and Romans." By Aylett Sammes, of Christ's College in Cambridge; since, of the Inner Temple. London, 1676, fol.

¹⁶ Bede says: "In primis hæc insula Britones solum, a quibus nomen accepit, incolas habuit, qui de tractu Armorica (ut fertur) Britanniam advechi, australes sibi partes illius vindicarunt."—Bede's "Historia Ecclesiastica Gentis Anglorum."—Lib. i., cap. i., p. 23.

¹⁷ See the "Anglo-Saxon Chronicle," according to the several original authorities, edited with a Translation, by Benjamin Thorpe, vol. i., p. 3, and vol. ii., p. 5. London, 1861, 8vo.

¹⁸ Although the various published texts of the "Anglo-Saxon Chronicle" have this word inserted, yet it is evidently a mistake in the original manuscript—which does not yet appear to have been found—for the word *Armenia*.

¹⁹ See "Historia Ecclesiastica Gentis Anglorum," lib. i., cap. i., pp. 21 to 24. Editio Cantabrigiæ, 1644, fol.

²⁰ See Dom. Guy-Alexis Lobineau's "Histoire de Bretagne."

²¹ See Rev. Dr. Lanigan's "Ecclesiastical History of Ireland," vol. i., chap. iii., sect. xii., n. 122, pp. 108, 109.

²² At latest, this Greek writer is thought to have flourished at the beginning of the fourth century. In his poem *Periegesis*, he describes the British Islands at the mouth of the Rhine. See vv., 566-569.

²³ He refers on this occasion to Camden's "Britannia." However, this latter writer distinctly admits a Britain to have been near Boulogne.

²⁴ However, the commentator on Dionysius Periegetes, who is known as Eustathius, Archbishop of Thessalonica, and who flourished in the twelfth century, wrote of a Continental Britain as existing at that early period, and as being opposite the British Isles.

³ In his Commentaries on the Book of Genesis.

⁴ Thus Sir Thomas Elliot states, that *Protagora*, by which the Athenians dignified their public revenues, had been the original from which Britannia had been derived.

⁵ See John Speed's "History of Great Britaine." The Fifth Booke, chap. ii., p. 159.

⁶ See "The Irish Version of the Historia Britonum of Nennius," edited by Rev. Dr. Todd and by the Honourable Algernon Herbert, pp. 26, 27.

⁷ See *ibid.*, pp. 31 to 41.

⁸ See the legendary account of Brutus and his adventures, as contained in Matthai Parisiensis, Monachi Sancti Albani, "Chronica Majora," edited by Henry Richards Luard, M.A., vol. i., pp. 16 to 23. London, 1872, 8vo.

⁹ A conjecture has been offered, that he may have been the same as Cuan or Cuanna—in the genitive case Cuanach—a historian or an annalist frequently cited in the Annals of Ulster.

¹⁰ See that early black-letter book, "Le Grandes Croniques de Bretagne," printed at Paris in the seventeenth year of Louis XII's reign 1514, livre premier, fol. iii.

¹¹ Among these is William Camden, in hisce et hujusmodi falsa arguere, quam verum adstruere.—"Britannia," p. 2. Edition, Amstelodami apud Joannem Janssonium, Anno CLQ. LXXII.

¹² See John Speed's "History of Great Britaine," book v., chap. iii., pp. 161 to 165. London edition, 1650, fol.

¹³ He is venerated as a saint at the 29th day of January, and he died about A.D. 570.

¹ He flourished in the year 30, A.C.
² See his *Geographica*, Tomus i., lib. i., p. 92; lib. ii., pp. 107, 110, 130, 142, 153, 156, 159, 167, 168; lib. iii., pp. 197, 239; lib. iv., pp. 261, 263, 268, 269, 271, 277, 278. Ed. Oxford, 1807.

also, that Ernest Desjardins,* of the French Institute, in his very researchful and exhaustive historical and geographical work, has no allusion whatever to the Britons, when treating of Gaul, during the times immediately before and immediately after the birth of our Saviour. Again, it has been asserted, that the name of Britain had not been given to any part of Gaul, until after St. Patrick's mission to Ireland.²⁵ It would seem, that the tyrant Maximus brought a large contingent of insular and armed Britons over, when he landed at the mouths of the Rhine. These afterwards spread along and ravaged the northern shores of France to the remote extremity of Britany, where the Bretons settled, and afterwards Armorica was known as Britannia, or Bretagne.

There is a tradition, that a colony of the Morini had given their name to distant islands, which they discovered. Perhaps, the district of Mourne, on the north-east coast of Ireland, may have been one of those localities thus indicated. The Irish derivation of the name is thought to have been identical with that given in former times to those French Britons and Atrebatas, who lived on both sides of the sea,²⁷ in France and in England.

RESPONSIBILITY FOR DEFECTIVE DRAINAGE.

THE judgment which has just been given in the case of *Gerhardt v. Saunders* and others will materially assist in removing any misapprehension that may be said to exist as to the responsibilities of landlords and tenants in matters relating to sanitation. The case came up for hearing in the Queen's Bench Division, London, and it was in the form of an appeal against the decision of Mr. Commissioner Kerr, who had non-suited the plaintiff, a tenant who had brought an action against his landlord to recover a sum of about £18 for the expense he had incurred in abating a nuisance arising from a structural defect in the drain of the house he occupied. The Court of Appeal, however, reversed the decision of Mr. Commissioner Kerr; and Mr. Justice Day, in giving judgment for the plaintiff, said that the learned Commissioner held that certain defects in the service of the notice had, and the absence of certain notices, were fatal to the plaintiff's case, and non-suited him. They, however, came to the conclusion that he was wrong in that view, and that the plaintiff had made out a legal right to recover the money. A serious nuisance arose from the sewer, and the plaintiff properly called the attention of the sanitary authorities to it. An officer called at the premises and satisfied himself that a nuisance existed which required immediate abatement. Sewage was collected in the lower part of the house, and there was danger to the occupants of the house and the neighbours. The sanitary authorities properly served notice on the premises, requiring the nuisance to be abated forthwith. The plaintiff sent the notice to the landlords, but they did not do anything, and the plaintiff wisely and properly proceeded to do the work. If he had not done so, he would have been liable for a penalty of £10, apart from the danger to life and health. No doubt it was difficult to construe the statutes—this was a difficulty that often applied to modern statutes—but the gist of it, he thought, was

that where such a nuisance existed, and it was abated, the expense must be cast on the person through whose acts or defaults the nuisance was caused. Therefore he was of opinion that both as to the technical objections and the merits of the case there was no defence to the action. In this decision Mr. Justice Charles concurred. It will be observed (writes the *Whig*) that not only does considerable responsibility rest with landlords, but in certain cases tenants may also render themselves liable to action, as for example where a nuisance arises from the carelessness or negligence of the occupier.

DRUMGATH PARISH CHURCH, RATHFRILAND, CO DOWN.

THE abovenamed ancient fabric, which was re-opened on the 6th inst., has been entirely remodelled in its interior. A new chancel has been added, in which a fine triplet window filled with stained glass, bearing suitable Scriptural mottoes, has been placed. This window is the gift of Miss Fagan, to the memory of her father and mother. The windows of nave and transept are of cathedral glass, the gift of Crane Fegan, Esq. The other works include the entire re-flooring and re-seating of the church. The latter are of pitch pine, with open bench ends. There is also a new pulpit and reading-desk, also of pitch pine, of open tracery-work standing on columns. A handsome oak lectern was presented by the Rev. Matthew Parker, Rector of St. Matthew's, Birmingham, and occupies a central position between the pulpit and reading-desk. The church has been efficiently heated with one of Musgrave's radiating stoves. The cost of the chancel has been partly defrayed by a gift from the Beresford Fund, but the bulk of the expense has been defrayed by the members of the congregation. The works were carried out, from plans by Mr. W. J. Watson, M.R.I.A.I., by Mr. Alexander Wheelan and Mr. John Thompson, all of Newry.

IMPROVEMENTS IN PHOTOGRAPHY.

THE recent discovery of the so-called "Jena glass," in the composition of which barium enters, giving a refractive power little less than that of the diamond, and its employment in the construction of photographic lenses, is likely to make a noteworthy change in the character of the photography of the future, so far as landscape is concerned, and also probably in the newer field of stellar photography. The Jena lens has been brought out in three forms by Zeiss, of Berlin, and in one by Ross and Co., of London. These differ in their formulæ and in the nature of their results, but all agree in the attainment of a long-sought ideal in a photographic lens—namely, the abolition of the curvature of the field, so that a lens will, in the limit of the field which it will cover, render all the details with equal precision.

Every photographer, except the Kodaker, who does not see the view his camera makes the record of, knows that when the centre of the field is focussed the margins are in a state of imperfect definition, which differs with different lenses, but, in general, can be avoided only by "stopping down"—i.e., using so small an aperture that the pencil of light which finds its way to the sensitive plate shall be sharp enough at any point to give a definition approximately equal to that given at the centre. The advice given to the beginner is to focus on a point midway between the centre and the margin, so as to balance the imperfection in definition, the field of absolute sharpness being in the form of a portion of the inner surface of a hollow sphere, the centre of which is approximately at the centre of the lens.

The Jena glass in the Ross formula gives field so free from curvature that, with a lens of 8 in. focus and an opening of $\frac{1}{4}$ in.—i.e., focus divided by 16—every object within an angle of 90 deg. and beyond the distance of 100 yds., more or less, is rendered with a

definition in which the naked eye can make no distinction, and which is superior to that given by any previous form of lens with an opening of the focus divided by 100. The most powerful of the three Zeiss forms gives the same result on an angle of 45 deg., with an opening of 1 in., approximately. The field of definition is still larger, and covers, in the Ross lens, a circle of over 100 deg., but the margins are slightly less illuminated. A larger opening than that which the lens is made for does not damage the flatness of the field, but causes loss of definition equally over the field. The employment of the Jena glass in stellar photography might be expected to give, in the place of the small angles of satisfactory definition now obtained, a field of 50 deg. with equal precision.

The entire "flatness of field" which is now obtained in the new landscape lenses, is accompanied, as was to be expected, by a corresponding "depth of focus," so that the range in distance is almost equally remarkable. Severe tests on objects near a straight line leading into extreme distance show no perceptible difference in the definition as between an object twenty yards away or a mile away, and none between one at a distance of 100 yards and the horizon. The definition over the whole field of a Ross lens of Jena formula within a circle of 90 deg. is so delicate, that no ordinary print by any solar process will do it justice, owing to the fact that there is no compromise in the obtaining of the definition, and every portion of the field may be insisted on to the utmost. The new construction of the photographic lens makes it possible to render it an instrument of as great a degree of precision as a microscope or telescope. This is something quite new in photographic optics.

CORRESPONDENCE.

THE DUBLIN JUNCTION RAILWAY.

A KNOTTY POINT IN THE LOOP I

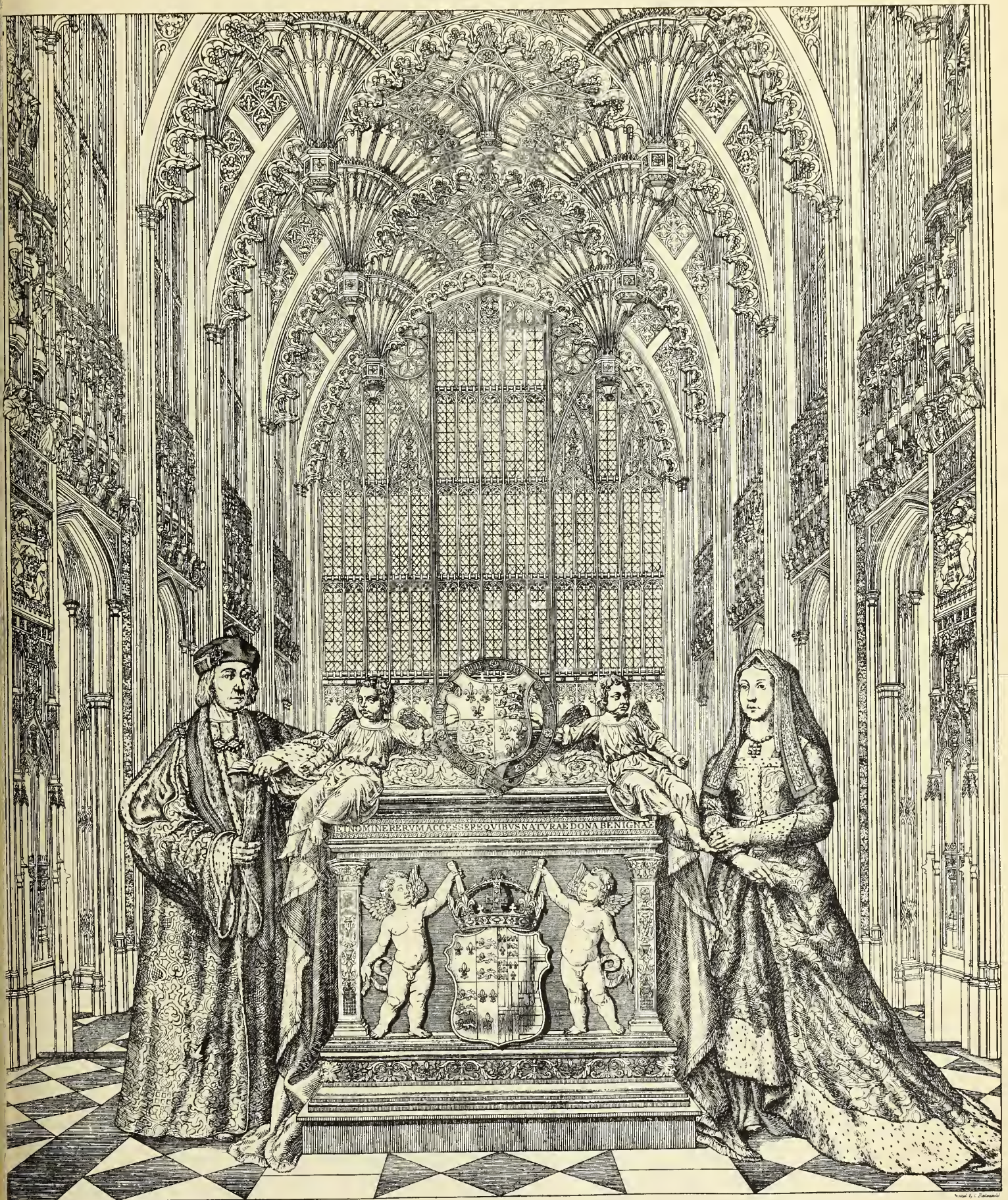
TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In the report of the Railway Commission in this day's paper, Viscount Cobham, in examining Mr. Ivatt, Chief Locomotive Engineer to the Great Southern and Western Railway, is reported to have asked Mr. Ivatt, "Why could not the driver get down and see whether he was on the right lines?" Now, perhaps, no more powerful argument in favour of the contention of the Midland Great Western Company could be brought forward than this very question by Viscount Cobham. We in Cork and the South of Ireland have been working hard for a long time for the improvement of our local and of the American mail service. We want a faster, better, and surer service for the last than we at present possess. We are most anxious that the Loop Line should be availed of if it leads to an improvement, however small. We have been told over and over again that the Loop Line will lead to this improvement; and, yet, at an important point of this communication, it is found to be so defective that a Railway Commissioner is compelled to ask the question why should not the driver get down off his engine to examine whether his train is on the right line or not. The Dublin, Wicklow, and Wexford Company incur a grave responsibility in this matter. Instead of going before the Railway Commission, they should go to work to put this matter right and at once. No one wrote or spoke more in favour of the Kingstown and Kingsbridge line than I did. We, in the South, have always believed it was far the best line for our purposes, but the feeling of hope that it would be made, has changed to one of disgust at the constant putting off and at the long, long delay in commencing it. On this account we were in a state of mind to welcome the use of the Loop Line, if, as I said, it could be shown that it was an improvement on the present transit of the mails, but Viscount Cobham's question is simply the last link which proves the contention and the state-

²⁵ See his "Géographie Historique et Administrative de la Gaule Romaine," tome i., li., Paris, 1876, 1878, 8vo.

²⁶ See Rev. Daniel Rock's "Letter to Lord John Manners," Appendix, p. vi.

²⁷ M. Piers quotes M. Amédée Thierry, as saying: "Les Bretons furent les premiers qui s'y fixèrent; ils habitaient une partie de la Morinie; peut-être par un pieux souvenir ont-ils appelé leur nouvelle patrie la Grande Bretagne. Les Atrebatas anglais, originaires de Belgique, résidaient à Caleva ou Galena Atrebatum, à 22 milles de Venta Belgarum, dans le canton où est aujourd'hui Windsor."



INTERIOR OF ST. MARY'S CHAPEL, WESTMINSTER ABBEY,
Built by King Henry the Seventh.

FROM
"PLANS, ELEVATIONS, SECTIONS, DETAILS, AND VIEWS."

BY
LEWIS NOCKALLS COTTINGHAM.

LONDON: 1822.

ments of the Midland Company, and of the eminent engineers brought forward by them to be entirely correct.

K. B. WILLIAMS.

Mallow, May 6th, 1892.

MEMORIALS.

A marble bust of the late Sir John Macdonald, Prime Minister of Canada, designed by Mr. George Wade, is about to be placed by the Imperial Federation, in the crypt of St Paul's Cathedral, next to that of the late Lord Mayo.

A memorial cross to perpetuate the memory of the late Most Rev. Dr. McGettigan, R. C. Archbishop of Armagh, is to be placed over his grave. It will stand 25 ft. high, and be richly carved on each side with subjects from the Old and New Testament, the material employed being Mountcharles sandstone. The sculptor is Mr. H. G. Barnes, who is also executing a bust, in Armagh marble, of the deceased prelate.

A handsome tablet is about to be placed in St. Mary's Parish Church, Newry, to the memory of the late Dean Bagot. It is in the form of a scroll of white marble, mounted on polished black marble, with the inscription—"Sacred to the memory of the Very Rev. Daniel Bagot, D.D., Dean of Dromore, Vicar-General of Newry and Mourne, and Vicar of St. Mary's Parish Church, Newry, for 32 years. He died the 9th June, 1891, at Surbiton, Surrey, aged 86 years; deeply regretted. "I shall be satisfied when I awake with Thy likeness."—Ps. xvii. 15."

The memorial in the Castle Gardens, Lisburn to perpetuate the memory of the late lamented Sir Richard Wallace, Bart, K.C.B., is now receiving the finishing touches from Messrs. Robinson and Son, Belfast. It is a very graceful structure, rising to a height of 40 ft., and is a conspicuous object from Castle-street, as well as from the County Down side of the town. The following is the inscription on side of memorial which faces Castle-street:—"To perpetuate the memory of one whose delight it was to do good, and in grateful recollection of his generous interest in the prosperity of the town, of which it possesses so many proofs. This monument is erected to Sir Richard Wallace, Bart., K.C.B., some time M.P. for the borough of Lisburn, by the inhabitants of the town and neighbourhood. Obit. July XX., MDCCCXC."

CHIMNEY CONSTRUCTION.

A COMMUNICATION from Mr. William Gray on "The Practical Application of Heat to Domestic, Cooking, and Boiler Arrangements," has recently been read before the Royal Scottish Society of Arts. The object first considered was the nature of the chimney for close and open ranges. For these considerable draught was required, and this depended on the height of the chimney, the area of its section, and also the temperature at which the smoke was allowed to enter it. The top of the chimney should not be larger than was required for the greatest quantity of fire, and the intermediate part should be wider than the top, and as free from abrupt changes as possible. A common fault in the construction of kitchen ranges was that a considerable portion of the heat was allowed to pass up the chimney, and diagrams were shown in which the back and bottom of the oven and boiler were exposed to the heated air coming from the fire. In his opinion an open range exhibited was the heatiest, because from the nature of its construction it kept the kitchen cool and free from smell, while the oven was always ready for baking and roasting. A new system of pipes for the circulation of hot water was explained, in which the hot water tank was placed at the top of the house and the cistern was placed above the tank. By this system the cold water entered at the top of the tank,

in which were perforated cross pipes, through which the cold water issued in a spray, and was distributed over the whole upper superficial area of the water in the tank. Experiments showed that there was a saving of from 15 to 20 per cent. of fuel by this system.

NOTES OF WORKS.

The Pembroke Township Commissioners, on the 9th inst., decided to erect forty cottages for artisans at Cambridge-road, Ringsend, from plans and under the superintendence of Mr. J. J. Farrell, architect.

At the meeting of Drumcondra Township Commissioners, on 3rd inst., tenders for the construction of a sewer in Margarett-place were opened, and that of Mr. Robert Simpson, for £97 17s. 6d., was accepted.

Last week the foundation stone was laid of the new church of St. Barnabas, a district of the Parish of St. James', Belfast. The church will be in the Early English style, of perforated brick, and will accommodate 550 worshippers, to be increased to 770 when the south aisle is added.

It is intended to erect on the wide stretch of ground which lies on "The Plains" at rear of the General Assembly's College, Belfast, a pavilion to accommodate 10,000 delegates for the Convention to be held next month in that city. Mr. Calwell, C.E., has been appointed architect, and he is now engaged on the plans for the edifice. The work will be commenced immediately, as it is expected that it will require more than a month to have it completed.

St. Joseph's R. C. Church, Berkeley-road, has lately been much improved in interior appearance by the erection of a new organ, as also by the raising of the reredos at the high altar by means of an arcade of six arches of Caen stone, supported on polished marble columns with carved capitals, and placing two marble credence tables at each side of the altar. The proposed new belfry will be constructed of granite, designed to harmonise with the style of the church, and will be about 120 ft. in height. The architectural designs have been prepared by Mr. J. L. Robinson, A.R.H.A. The organ is a two-manual instrument, built on the tubular system. On the swell organ are clarinet, corneopane, principal, open diapason, hohl flöte, and a new reed, Unda Maris, which, coupled to the tremulant, gives the effect of a vox humana. The great organ is full to trumpet, and on the choir are claribel and flute. The couplers are swell to great and octave; and pedal stops, great to pedals, swell to pedals. The instrument is the work of Mr. John White, of this city.

The Roman Catholic Cathedral at Portsmouth is now approaching completion. The cathedral is cruciform on plan, and is in the Gothic Decorated style. At the west end, when completed, it will be finished off with a handsome tower and spire. The cathedral is faced with Fareham red brick, relieved with dressings of Portland stone, and has a red tiled roof. The sanctuary is 52 ft. long by 26 ft. in breadth, and 69 ft. from floor to ridge. It has thirteen two-light windows with pointed heads of beautiful tracery. The transepts are each 24 ft. wide by 20 ft. deep, of the same height as the sanctuary. The north has a five-light window with pointed arch, and the south a rose window of floriated design. In the interior, a lofty rood-screen of wrought iron divides the sanctuary from the nave. The walls are faced with Beer stone, with columns of dark marble extending to the ribs of the roof in the apse. In both sanctuary and transepts the ceilings are of stained wood, groined and perforated. The chapel ceilings have ribbed mouldings. The flooring throughout is of wooden blocks. The baldachino occupies a position at the eastern extremity of the apse, over the high altar. The massive doors are of panelled oak, with locks of Gothic design. The architect was Mr. Joseph Hansom, of London.

The foundation stone of the new R. C. Church of Tomgraney, Co. Clare, was recently laid. The building will be constructed of dressed stone supplied from Limerick; and the estimated cost will be close upon £2,000. The architect is Mr. Francis O'Connor, of Ennis; and the contractor Mr. John Hargreave, of Sixmilebridge.

The dedication of St. Joseph's Redemptorist Church, Dundalk, the local *Democrat* informs us, will take place on the 7th of August next. The foundation stone of this building was laid in June 1890, at which time we gave a full description, and in October 1891, further particulars, together with an engraving of the chancel. Mr. G. C. Ashlin, R.H.A., is the architect; and Mr. James M'Adorey, contractor.

The Methodist Church, Bray, has been undergoing alterations and improvements. Windows have been enlarged, pews altered, and uniform cushions supplied therefor. The platform has been extended, and a nice design in pitch-pine placed on the wall behind the communion rails. The walls have been painted, and the woodwork stained and varnished. We have no information as to architect or contractor.

THE AMERICAN SCHOOL AT ATHENS.

THE archaeological work of the American School at Athens, since the last excavations published, has been carried on at Argos and Sparta still, and in the interior of the second temple of Hera, at the former place (built by Eupolemos between 420 and 416 B.C., Polycleus having made for it the gold and ivory statue of the goddess), there was found deep down within the foundation a well-preserved metope of the temple showing the torso of a warrior, and a head of Hera, in perfect condition, and from this and the metope, with other fragments, Dr. Waldstein thinks the art can be thoroughly studied, and that the result will be a revelation of the Polycleus sculpture which will modify the hitherto prevailing ideas of it. He considers the head of Hera the finest specimen of fifth century sculpture extant, and the only well-preserved and authentic head of that period in any museum. When compared with other well-known statues of Hera this statue appears to have many points in common with the Hera Farnese at Naples, which Brunn had identified with the statue of Polycleus, and Waldstein also considers that the Juno Ludovisi at Rome is modification of it, preserving many of its most impressive characteristics.

The excavations at Argos have not only been important from the discovery of these important works of the highest period of Greek art, but there were also found below the foundations of the second temple and on the site of the first a large number of bronzes, terra-cotta images, vases, works in ivory and bone, as well as scarabs and other apparently Egyptian objects which Dr. Waldstein thinks will throw important light on the earliest history of Greek art. At Sparta, the tentative excavations which were concluded within the past few weeks brought to light the circular building ascribed to Epimenides (about 530 B.C.), mentioned by Pausanias. The base of the statue of Zeus on the top of the building has also been uncovered, and gives a certain point of departure for the topography of Sparta. In other respects the explorations at Sparta have not been fruitful, but show that, though Thucydides asserted the contrary, Sparta was very rich in monuments and buildings of interest, which the devastations and constructions of the Byzantines, Franks, Venetians, and even later invaders have left in a state which gives little promise of return for excavation. Dr. Waldstein has resigned his position as head of the American School, and will henceforth limit his work there to the supervision of the excavations in the vacations at Cambridge, devoting himself generally to his lectureship at the University.

THE "JERRY" FRATERNITY IN BOURNEMOUTH.

UNDER the heading of "Bournemouth as a Winter Resort," Mr. Henry Sewill, M.R.C.S., contributes a paper to the *Medical Press and Circular*, in which he exposes the doings of the "speculative builder" in that much-frequented "health resort." He writes:—

"Many of the houses of every class in Bournemouth are well built and are extremely well planned and fitted with conveniences in the way of hot water supply and such things which leave little to be desired. Their sanitation is also good, and the town authorities undertake to examine and certify as to the condition of houses in this regard. There exists however, a most unfortunate circumstance which I never seen publicly discussed regarding the character of numbers of houses at Bournemouth, a circumstance of which the vast majority of winter visitors are at the outset ignorant, but of which it is extremely desirable that the medical profession as well as invalids should be fully informed. The fact to which I refer is that the speculative builder has been and is still rampant at Bournemouth, and a great many of the houses are from defective construction not fit for habitation by the kind of invalid usually sent to Bournemouth for the winter. This subject may perhaps be best illustrated by a brief account of the experiences of some friends of mine resident at Bournemouth during the period of my stay from October to April. They hired a furnished house. It was situated in a good, although not a central or the most fashionable, position. It was surrounded by half-an-acre of garden. The house contained three moderate sized "reception" rooms, and six bed rooms, with dressing and bath rooms, and was neatly but very plainly furnished. The interior was excellently planned, light and cheerful: the rent eight guineas per week. My friends were perfectly comfortable until the cold weather began. It was then found impossible to keep the temperature of any room up to 60° F., although fires were kept going day and night so far as possible in the entrance hall, all the sitting rooms, and several of the bed rooms. Worse than this, the rooms were rendered intolerable by reason of the terrible draughts which were only made stronger the larger and hotter the fire. Attention was then attracted to the structure of the house. It was found that all the floors were laid with thin timbers, and that the planks and wainscot had either never been closely jointed or had shrunk so that between all the boards spaces varying in width from 1-16th to half-an-inch existed, whilst the wainscot did not reach the floor by a similar distance. Cold air found easy entry beneath the flooring through ventilating bricks in the walls or through the walls themselves, which were none too thick, and hence a condition of dwelling had been produced well calculated to aggravate disease, if not to prove a veritable death trap to an invalid accustomed to a well warmed and equable temperature in his own home. Not only has the speculative "jerry" builder seriously injured Bournemouth by covering a vast acreage with houses so faultily constructed as to be totally unfitted as winter residences for any of the delicate or invalid classes, but to the huge extent to which he is carrying his operations he is rapidly destroying the main charm of the place, and its most valuable attraction. A few years ago one used to think of Bournemouth as a small settlement mainly composed of separate houses scattered through pine woods, and surrounded by woods and heath-covered commons. The amount of building which has taken place in late years and that is going on now is almost beyond belief. From Poole to Christ Church the whole district has been laid out in roads, and is either covered with houses or is rapidly being developed as building estates. A walk into the country is no longer within the powers of an average invalid. In every direction are new roads covered with houses. The houses on

these new roads are, with rare exceptions, of the detached or semi-detached Cockney villa variety, and it is impossible to find in any London outskirts dwellings which for hideousness exceed those which express some Bournemouth builders' ideas of the "gentle," and the ornamental. Road succeeds road, the villas mostly dismal, mostly mean, and as a rule displaying the character of their structure as plainly as though "Jerry built" were written across their fronts in letters a foot long. Of these houses may be repeated what was lately said of similar dwellings in a London suburb, that they all offer by way of sole virtue clear evidence of their incapacity to survive a hundred years, and to disgrace the present in the eyes of future generations. The effect of these monotonous lines of ugly little houses is unfortunately more depressing in the environs of Bournemouth than in a London outskirts. At Bournemouth they deface and disfigure what has been a sweet country side. A clay field in the Harrow valley is not much marred by the vulgar boxes of brick by which it may be covered, but it is to the last degree sad to find vistas of such hideousness in places where lately charming views existed through groves of pines, and to see the slopes of what were lately heather-covered commons—the be-fouled remains of which remind one of the recent past—rendered hateful to the sight by the gable ends or still more odious "ornamental" fronts of Cockney villas. Jerry building and speculative building have already injured Bournemouth, and threaten to rob it of every advantage."

HISTORIC MEMORIALS OF LEIX.

(Continued from page 108.)

MEANWHILE, the governor of Athy had dispatched a message to General Owen Roe O'Neill, then in the County of Longford, to send forward forces for his relief. Immediately, on receiving such message, drawing his men together, the General set out towards the Innys and Ballymore, when the regiments adhering to the Supreme Council fled at his approach. Then O'Neill marched to Kinalagh, in the barony of Moycashel. Next morning he marched to Clonmagawny, where a petty garrison of Lord Clanmalire was posted, and the occupants fired upon the advanced party of the army. But, having ordered the main body to move thither, O'Neill threatened to demolish that castle. Whereupon the Lady Clanmalire came to him in a most submissive manner, and on her knees she besought the General to forego his intention, because poor and ignorant people had misbehaved themselves, as not knowing the consequences of their freak, while their act was not commanded by Lord or Lady Clanmalire. Whereupon, the latter prevailed, and at her request, both the town and the offenders were spared, while O'Neill poured out some vituperative language against her husband, as being both base and recreant in siding with the Supreme Council. Taking his leave of that place, the army marched forward to Portnahensie, endeavouring to reach Athy, so as to surprise young Preston before he could have notice of the matter. At this time, an uncommon flood was in the Barrow, and all the boats and cots for crossing it had been secured by Lord Clanmalire and Captain Branahy Dempsey. These also sent in haste word of General O'Neill's advance to Diego Preston. The latter stole away by night, on the 5th of August, and it was afterwards pretended, that in consequence of failure at the mining operations, his father had given him order to raise the siege. The army of O'Neill, arrested by the Barrow, continued encamped for two nights. As the flood was great in that river, an expedient was used, which enabled all to pass over.¹

¹ It is thus related, in the "Aphorismicall Discovery of Treasonable Faction": "The General did cause a greave oake, that from side to side covered the maine river, to be cutt, havinge some caldrons, tynge rope and whitts to either end thereof; upon the oke and those caldrons all the armie, amounting to 9 or 10,000 men, both man, woman, and

When Diego Preston raised the siege of Athy, his haste was such, that he sent no order to those employed in the sconces and other places to retreat. Only two hours after his departure was it known to many asleep in the camp and to the settlers; then some followed him, and others did not. When Captain Shane O'Hagan observed no motion in the camp or trenches, he issued out with a choice company of musketeers, and found some sleeping while others were awake.²

While Diego Preston's army lay before Athy, several of his officers wrote a letter to Colonel Jones, who was governor of Dublin and of all Leinster for the Parliament, to ascertain, if he had been in correspondence with General O'Neill and his party.³

When O'Neill had encamped near Athy, he ordered Lewis Moore and Roger Maguire with their parties to come from Lower Leinster and join him. This they did without delay, although Preston's forces were endeavouring to intercept them. They arrived notwithstanding at the camp, and brought a great prey to subsist the army, at Athy. There too they remained for three days to refresh themselves. Not more than three or four miles from Athy lived one Thomas Oge Oventon, in his castle of Ballylebane. A complaint had been preferred against himself and his son and heir, as also against their adherents, that they had many bickerings with the General's garrisons, and among other things, that they had carried away Henry Roe O'Neill's plough oxen, whereby his tillage was stopped. The General had been very considerate towards that gentleman and his family, and had greatly obliged him, when all other hostile garrisons in Leix had been taken, since his castle, goods, lands, and tenants were not molested. Now, O'Neill had found, that in time of his greatest need, Oventon had ungratefully treated himself and his son as enemies. Wherefore, the General sent a letter to Oventon, that on sight of it, he should repair to the camp, and answer such charges as should be preferred against him. Moreover, he was assured of safe conduct; and that he should be permitted without prejudice to revisit his own Castle of Ballylebane.

Having three score well-appointed musketeers with him to defend the fort, and wanting nothing that might enable him to hold it, overconfident of its impregnability, Oventon bid defiance to O'Neill and refused his summons. However, resolving to reduce him, the General commanded his Major-

garrison to pass over the river, and non of the whole number miscarried but one old woman (and the same by timidity), which I take rather a miracle than any humane industrie or dexterity; wet both horse and man as they were, marched that night within a mile and a half to Athy, where he pitched his campe."—Third Booke, chap. xxxi, pp. 241, 242.

² It is stated: "Such as he founde asleepe he hanged for not complying with theire dutie, as many Vlisterns as he founde amonge them he hanged, as fightinge against theire owne people, religion, and contrimen, but the Linsterns he pardoned, alleadinge they fought, whether right or wronge, in the behalt of theire owne people and province, and the same daie enlarged them without ransom; goinge forwarde to the campe, founde there onely some country shuttlers, butchers and poore people, gott some provision and armes, and thus returned victorious home."—*Ibid*, p. 242.

³ The following is the text of that letter:—

Sir,—Letters have been intercepted, which begett in us a just suspicion of your correspondence with Owen O'Neyle and his partie, which brought the British nation to their now sad condition, and whose purposes unto themselves, at the end of this totall subversion and ruine, which beinge made manifeste unto us, we have taken armes to reduce him and his adherents. Sir, we are of opinion noe true-hearted Englishman, or any of that extraction, will joine with such a partie against us, whose intentions never sweved from maintaininge and submittinge unto the government his proceedings and intentions soe well knownen to be averse unto that end, that the best and most of the same extraction with himself doe abominate him and his actions, and are as active as any towards his redempt. If, through your joininge or complicity with him, our partie may be prejudiced, you will thereby hasten your owne and our destruction, both which wee doubt prevented by your admittinge of a timely conference with such as wee shal imply, whereby you may be accertained to derive unto your partie more advantage than may be expected from soe base and perfidious a man as he is. Your specific answer here is expected, by your servants.

From the Campe, neere Athy, the last of July, 1643.
Trimlettstowne. Thomas Preston.
John Dowgan. Thomas Esmonde.
Iveagh. Pierce Buttler.
Dillon. Gerrot Walle.
Robt. Thalbot. Slane.
Pierce FitzGerald. Luke FitzGerald.
James Preston.
Richard Barnwallle.

Copia vera: Anthony Geoghegan,
Prothonotarius Apostolicus.

General Hugh O'Neill to march with his two regiments of infantry against the castle, and when in sight of it to threaten Ovendon with its entire destruction, if he did not yield to the terms imposed: namely, to allow one half of the Irish to garrison it, with the other half belonging to the castellan, so that no molestation of O'Neill's garrisons in Leix should afterwards take place. On such condition, Mr. Ovendon's goods and lands were to be at his own disposal. According to orders, the Major-General had an interview with Mr. Ovendon, who peremptorily answered, that he would admit none of the General's men into the castle. As a safe return was promised Mr. Ovendon, the Major accompanied him to the very door of his castle. When Ovendon had entered it, the Major told him to make the door fast as he could, for an hour afterwards he should not be able to do so. As the defenders had given the word of no surrender, the assailants advanced, and set fire to a great house, which stood near the castle. Under cover of the smoke, some musketeers moved forward, and soon drove the garrison from the battlements and windows. Immediately fire was set to the castle door, notwithstanding the strong defensive iron gate wherewith it was guarded. Soon the defendants began to cry for quarter, and their lives were spared. In less than an hour, the besiegers were in possession of the castle, but with four or five men killed on their side and six wounded. On entering, the assailants found the stronghold well supplied with arms, ammunition, brass, corn, and malt, while £3,000 worth of money and plate was secured. Nevertheless, not a man, woman, or child found there received any injury, but they were all dismissed, except Ovendon himself, who was sent as a prisoner to Athly Castle. There he continued for a quarter of a year, until he paid ransom. His goods were confiscated, and a garrison was placed in his house by the Irish.

(To be continued.)

DRY CRUSHING MACHINERY.

At a meeting of the Society of Engineers, held on the evening of the 2nd inst., the President in the chair, a paper was read by Mr. Samuel Herbert Cox on the above subject.

The author having stated that the improvements of recent years in chemical and metallurgical processes had rendered necessary the introduction of dry crushing machines, affirmed as a first principle of success, from an economical point of view, that it was necessary to use the different machines for the work only for which they were designed. While admitting that it was, perhaps, difficult to draw hard and fast lines for the work of machines, he thought no trouble would be experienced in defining the main duty of different classes of plant, or their combination in the most efficient groups. Pursuing this principle, he stated that it was uniformly advantageous to employ two stone breakers, set to different gauges, to reduce the stone to such dimensions as would enable the fine crushing mills to work most effectively, and that the stone should be screened after each operation, in order to avoid passing material through the machinery which was already fine enough.

He then alluded to various forms of fine crushers, e.g., the Marsden fine ore crusher; stamper batteries; Krom's rolls; and Coward's Niagara mill, which he described, touching lightly also on the various ball machines such as the Globe mill. While admitting that each of these possessed certain advantages, he gave his unhesitating support to the Krom rolls as the most efficient for dealing with hard rock and reducing it to a fine powder.

He gave, in illustration, a description of a plant of this class which he had recently erected, stating that with a 12 nominal horse

power semi-portable engine and boiler, the whole plant, consisting of two stonebreakers, one pair of Krom rolls, three elevators, and one dust exhaust fan, was driven in a thoroughly satisfactory manner. The total cost of the plant, including buildings and erection, was £3,000, and the capacity, through a 40-mesh sieve, 30 cwt. per hour. The small number of wearing parts in a plant of this description is very important, as also is the fact that the rolls can be run until the tires wear to about half an inch thick, when they are easily replaced. The uniform nature of the products in which these machines differ greatly from most other crushing and grinding machines is, moreover, of the greatest value. The combination of crushing and grinding in the same machine may generally be looked upon as wrong in principle, tending to make a larger proportion of dust, which in subsequent wet treatment would result in slimes.

Referring to the numerous disintegrators which are used for dry crushing, the author pointed out that, although they were sometimes employed on stone, the high speed at which they were driven, and the necessarily somewhat heavy wear, involved constant repairs when they were used for this purpose, but, in their own province, viz., for crushing softer and somewhat elastic materials, for which any direct crushing plant would be useless, they are unequalled; and, where the material to be treated contains some moisture and is liable to clog ordinary screens, they are infinitely superior to all other types of machinery.

THE HISTORY OF THE CHURCH AND PARISH OF ST. MICHAEL THE ARCHANGEL, DUBLIN.

(Continued from page 107.)

PREBENDARIES OF ST. MICHAEL—(Continued).
(1541-1876.)

Collected from Cotton's "Fasti," the Vestry-books of St. Michael's, and other authentic sources.

1837-1843. RICHARD BARTON, M.A.

Richard Barton, born 1798; graduated at Dublin University; B.A., 1818; M.A., 1829; a Vicar Choral of Christ Church Cathedral, 3rd Nov., 1828. He was elected to this stall 27th March, 1837, admitted 3rd April and installed. He resigned on 15th March, 1843, having been appointed by the Dean and Chapter of Christ Church Cathedral to the Prebend of St. John's, to which he was elected 15th March, admitted and installed 18th March, 1843; in the following year he was appointed by the Dean and Chapter to the Rectory of St. George's, Dublin [*vice* Bushe, deceased]; he was elected Precentor on 28th Dec., 1846, in succession to Archdeacon Monsell. The suspension of that dignity, which had taken place by Order of Council, 28th Dec., 1836, was removed on 22nd March, 1847. Mr. Barton, formerly elected, was presented by patent dated 4th April, 1851, and installed on 9th April. He held these two offices until his death, which took place on the 4th March, 1876, at the age of 78. He was interred in the burial-ground of St. George's, Dublin. His son, Rev. George Barton, Curate of St. George's, who died, aged 30, 11th Feb., 1863, is also interred there.

1843-1844. CHARLES STUART STANFORD, M.A.

Charles Stuart Stanford obtained a Scholarship at Trinity College, Dublin, in 1825. He graduated B.A. *Æst.*, 1823; M.A. *Vern.*, 1832; B. and D.D., *Vern.*, 1855. He was elected to this stall 19th April, 1843, and was installed 6th April; he resigned in the following year for the Prebend of St. John's, and in 1845 became Prebendary of St. Michan's. He was appointed by the Dean and Chapter to the Rectory of St. Thomas, Dublin, and held it until his death. That event took place at Surbiton, Surrey, on 14th July, 1873, and he was there interred. Dr. Stanford was a prolific writer;

he edited several classical works, and was well-known for a period of thirty years as a leading city clergyman. He married, 19th June, 1866, at St. Mark's, Torquay, Devonshire, Agnes, 3rd surviving daughter of Rev. Richard Fayle, of Torquay.

1844-1845. EDWARD SINGLETON ABBOTT, B.A.

Edward Singleton Abbott, son of Alderman Thomas Abbott, Lord Mayor of Dublin in 1825, was born in Silver-court, Castle-street, and baptised in St. Werburgh's, 21st June, 1801. He graduated at Dublin University, B.A., *Æst.* 1833; and M.A. *Vern.*, 1845. He became Curate of St. John's in 1839, and was elected to this stall on the 13th Augt., 1844; admitted 21st, and installed 23rd Augt. In 1845, he resigned St. Michael's for the Prebend of St. John's; in 1855, he again resigned that Prebend for St. Michan's. In the same year he was promoted to the Rectory of St. Mary's, in which church he made several improvements. He died by his own hand in a fit of temporary insanity caused by monetary troubles, 12th June, 1865, aged 64. Dr. Hughes mentions that he gave the large sum of £1,260, in sundry donations, to St. John's Schools.

1845-1859. WILLIAM CHICHESTER, B.A.

William Chichester, B.A., eldest son of Rev. Edward Chichester (Chancellor of the Cathedral of St. Patrick's, Armagh, and Rector of Kilmore, in that diocese), by Catherine his wife, *dau.* of Robert Young, of Cudaff House, Co. Donegal, Esq., was born 4th March, 1813. In 1833, he was elected a Scholar of Trinity College, Dublin, and graduated B.A. *Vernis*, 1836; he was nominated to this stall on 15th April, 1845, admitted on the following day, and installed on 18th April. On succeeding (as heir general) to the large estates of his kinsman, John Bruce, 3rd Viscount O'Neill, and one of the representative peers for Ireland (who died 12th Feb., 1855), Mr. Chichester assumed, by royal licence, the surname of O'Neill. On 18th April, 1868, he obtained a Peerage of the United Kingdom as Baron O'Neill, of Shane's Castle, Co. Antrim. Lord O'Neill resigned this stall 6th Dec., 1859, and was nominated Honorary Dean's Vicar. Lord O'Neill published various tracts and sermons, and was a skilful musician. He died 18th April, 1883, leaving a son by his first marriage (3rd Jan., 1839), with Henrietta, *dau.* of the Hon Robert Torrens, a Judge of the Court of Common Pleas in Ireland, the 2nd and present Lord O'Neill; with other issue. He married, 2ndly, Elizabeth Grace, *dau.* of Venerable John Torrens, D.D., Archdeacon of Dublin. This lady still survives.

1859-1865. WILLIAM CONYNNGHAM GREENE, M.A.

William Conyngham Greene, son of the late Rt. Hon. Baron Greene, was born in 1827. He graduated at Trin. Coll., Dub., B.A. *Vern.* 1849, and M.A. *Vern.* 1852, with a gold medal for Ethics. He became Curate of St. Aune's in 1850, and of St. Peter's in 1851. In 1859 he was elected to this Prebend; instituted Dec. 6th; and installed Dec. 15th. He resigned in 1865 for the Prebend of St. John's, of which he continued Rector till 1877, when, on the death of Dr. MacCarthy, St. John's was united to St. Werburgh's, he became Rector of the Union. In 1887 Canon Greene was appointed Dean of Christ Church Cathedral, with the universal approbation of the Diocese, on the resignation of that dignity by Lord Plunket, Archbishop of Dublin,—an office which he admirably fills.

1865-1872. EDWARD ROE SEYMOUR, M.A.

Edward Roe Seymour graduated at the University of Dublin, B.A. *Vern.* 1852, M.A. *Æst.* 1856. Having served as Curate of St. Andrew's, Dublin, he was elected Prebendary of St. Michael's, 22nd Dec., 1865; instituted 24th January, 1865, and installed 26th January. He held this stall at the Disestablishment of the Church of Ireland in 1870.

(To be continued.)

4 The ruins of this castle are still to be seen in the parish and barony of Ballydamas. There is a brief description of that place in: A Legend of Ballyebane Castle, published in Duffy's "Irish Catholic Magazine," vol. 1, pp. 307 to 310.

ELECTRICITY AT CHICAGO.

ONE of the marvels of the recent electrical exposition at Frankfurt was a 6 ft. electric search light of 20,000 candle power. Schuckert, the Nuremberg electrician, astonished Europe in its construction. Schuckert is now at work on a larger light for the World's Fair. It will be 7½ ft., and of at least 25,000 candle-power. The Frankfurt light could be seen plainly at Bingen on the Rhine, forty-five miles away. It is expected that the search light at the World's Fair can be seen at least sixty miles away. Electrical Engineer Sargent is making plans for a tower 300 ft. high, on which the big light will be mounted. At a height of 100 ft. above the ground will be two 6 ft. search lights, and the three will suffice to illuminate the skies for miles around Jackson Park. Brilliant feats are accomplished with these search lights. Sheets of light can be projected with parallel, converging or diverging rays. When the rays are thrown out parallel a clearly defined sheet of flames seems to be suspended in the darkness. By changing the reflector the rays are brought to a focus at long distance from the central station. These lights, turned on the buildings and alternately shot into the heavens or out across the lake, will produce brilliant electrical effects.

MISCELLANEOUS.

PYROGRANITE.—A new brick of Russian origin, is being tried by British builders. It is made from a combination of fusible and refractory clays, and is strong and hard, resisting a crushing force of five and a half tons per square inch. It takes a high polish, and the clays may be mixed to give a great variety of colors.

BURNING OF AN OAK TREE.—An unusual spectacle was last week witnessed in the Home Park at Hampton Court, when a magnificent oak tree was discovered to be on fire. The tree is said to be 1,100 years old, and one of the eight largest oaks in England. It measured 33 ft. in girth, having an average diameter of 11 ft. The trunk was hollow for about 10 ft., and several of the larger branches above that were also in decayed condition. The fire was extinguished in a few hours, but not before the old tree had been almost destroyed.

PIERS AND HARBOURS.—The return of the amount expended up to the end of last year on the piers and harbours of Ireland, is published by order of Parliament. The balance of the money available out of the original grant of a quarter of a million was on the 31st December last £4,572. The only work unfinished was the Greystones (north groyne) Harbour, the original estimate for which was £7,000. The sum expended on this work between the 1st January and the 31st March in the present year was £799, and it is estimated that £1,288 is still required for its completion.

THE SURVEY OF IRELAND.—It may not be generally known that the Survey of Ireland, to the scale of 6 in. to the mile, is contained in 1,907 sheets, at prices varying from 3s. 6d. to 2s. each. Some of the cities—as Dublin, Cork, Limerick, &c.—are laid down to the large scale of 5 ft. to the mile, i.e., ten times the 6 in., and some parish maps can be had coloured to 25 in. to the mile; but, after all, these can only be regarded as approximations, and not reliable where exact measurements are required; besides, from the class of men employed in their production, most laughable errors have occurred.

ENGINEERING ASSISTANT FOR BELFAST.—A special meeting of the Improvement Committee was held last week regarding this matter.—Mr. Wm. McCanmond, J.P., presiding. The list of candidates, numbering 135, was gone through, and ten selected, out of which number the appointment will be made. The ten selected are as follows:—Frederick W. Bowden, assistant city engineer, Liverpool; Albert E. Clayton, engineering assistant to the Corporation of Huddersfield; Stephen M. Dixon, B.A., B.A.I., Trent Station, Nottingham; Francis G. Hopkirk, Belfast and Northern Counties Railway; Francis McCay, B.A., B.E., contractor's engineer on Kirkcaldy and District Railway; W. B. Norton, assistant engineer to borough engineer, Cardiff; Alfred Peace (with Mr. John Lanyon, C.E., Belfast) E. S. Pinkerton, B.E., B.A. (with Mr. R. I. Calwell, C.E., Belfast); and Robert A. Powell, A.R.C.S.I., Lincoln-place, Cork.

PAPER BUILDING MATERIAL.—A new use has been found for paper in the production of building material. Any quality of paper may be used, although manilla is preferred. During the process of manufacture, which is of American origin, a solution is added to the paper pulp consisting of one part of starch, one part of gum arabic, one part of bicromate of potash, and four parts of benzine to forty-four parts of pulp. The paper made from this combination is coated with a cement made of linseed oil and glue, and is then kept under heat and pressure for about one week, so that the boards made may become thoroughly cured and seasoned. These paper boards are capable of being worked up like ordinary woods for all purposes. The pulp may be coloured to represent any desired kind of wood.

ANÆSTHETICS.—A new invention for the administration of anæsthetics has recently been introduced. It consists of three main parts, namely, a two ounce graduated bottle closed by an air-tight fitting cap, through which two tubes are made to pass, a long one connected with a Richardson's bellows, and a short one attached by means of india-rubber tubing to a vulcanite face-piece. The latter is provided with a respiration indicator in the shape of a tiny feather, by which the respiration of the patient can be constantly observed. The nature of the compression of the bellows determines the quantity of anæsthetic vapour given. The inventor of this contrivance, says *Invention*, claims by its agency to have reduced the danger of administering chloroform to a minimum, if not to obviate it altogether.

THE ZUYDER ZEE.—The Government of Holland has for some time had under consideration a project for draining the Zuyder Zee. This sheet of water is almost useless for purposes of navigation, and large vessels can only find their way to Amsterdam by means of the North Sea Canal. As agricultural land, however, it would be exceedingly valuable, since it is estimated that more than two-thirds of it is very fertile. A Commission was appointed some time ago to examine into the question of draining this territory, which has a superficial area of 760 square miles. A report has now been issued; it proposes to close the Zuyder Zee by means of a dam that shall be constructed from the mainland, on either side of the island of Wieringen. The water thus cut off from the sea would be divided into four parts, in each of which the work of draining would be carried out successively. The cost of constructing the dam is estimated at £3,675,000, and the draining would involve an expenditure of £13,000,000.

THE ROYAL ACADEMY DINNER.—The two interesting speeches at the Royal Academy dinner were Mr. Balfour's and Professor Butler's, the latter of which, full of clever and piquant points of criticism in regard to art and literature, came rather as a surprise. His remarks on "the cult of the meaningless," and his story of a critic of the new school who explained to him the artistic object of a certain portrait—"Think away the head and face, and you get a residuum of pure colour"—are much to the point at present. In literature, for which he spoke, Professor Butler said that such a principle, form without substance, meant sure decay. Art and literature are not quite parallel cases, but the warning in regard to art is certainly needed just now. It is refreshing to find in Mr. Balfour an ardent politician whose political fighting has not deadened his love of art. His lament over the fact that such monstrous things as the Charing-cross Station and railway viaduct should be allowed there at all to spoil a site with such opportunities as the Thames Embankment, will come home to the sympathies of many of our readers. But when Mr. Balfour laments, further, that the "great public," whose property such a site is, cannot make its voice heard, we fear he was attributing to the great public perceptions which it does not possess. The great public of England is absolutely indifferent to any question of architectural beauty, and would ask no questions about the ugliest railway viaduct than whether it was convenient and safe; on these conditions, it may be as ugly as any engineer likes to make it, for all the public care.—*Builder*.

THE SALE OF CHLORODYNE.—At Bow-street, London, Mr. J. T. Davenport, chemist, appeared to a summons charging him with having sold by retail opium and chloroform in a preparation known as Dr. Collis Browne's chlorodyne, without distinctly indicating the contents in the wrapper of bottle. In opening the case Mr. Gill contended that, regard being had to the ingredients, the bottles should be labelled "Poison." Mr. Poland said Dr. Collis Browne's chlorodyne had been sold for over 40 years, and now, in 1892, for the first time, the owner of this valuable property was brought before the magistrate and charged with infringing the statute. He submitted that the Act did not apply to this preparation, because it was as a patent medicine

excluded from the operation of the measure. The magistrate was of opinion that the defendant had infringed the Act by selling a mixture containing poison without labelling the bottle "Poison," and fined him £5. He also ordered him to pay £5 5s. costs.

IRISH TIMBER.—In the home wood trade (says the *Timber Trades Journal*) there is nothing further to report with the exception of continued arrivals of Irish timber. The yards and quays are now pretty well blocked; the demand however, continues good, and deliveries are being made very satisfactorily; prices are not affected.

A RECENT PICTURE SALE.—On Saturday Messrs. Christie, Manson, and Woods, London, disposed of an important collection of modern pictures, formed by the late Lord Chylesmore, which comprised 31 works by Sir E. Landseer. Many of these works had been bought from the artist, and most of them have been exhibited at Burlington House and at other exhibitions during the past 20 years. The most important picture in the collection was Landseer's celebrated work, "The Monarch of the Glen," which was sold from the late Lord Londeshorough's collection in 1884 for 6,500 guineas. After some spirited bidding it was bought by Mr. Agnew for 7,900 (prices all guineas). Some works by other artists sold as follows:—*Sheep Gathering in the Isle of Skye*, by R. Andell, 230; *Traveller attacked by Wolves*, by the same hand, 310; *Interior of a stable with cows and sheep*, by T. S. Cooper, 200; *Cromer Sands, early morning*, 2,100; *Sunday in the Back Woods*, by T. Faed, 1,700; *Rebecca at the Well*, by F. Goodall, 545; *An Elegy*, by Sir F. Leighton, 330; *The Farring*, by E. Long, 380; *La Siesta*, by John Philip and R. Andell, 370; *Interior of St. Mark's, Venice*, by David Roberts, 650; *Interior of the Church of St. Jean, Caen*, by the same artist, 260; *St Michael's Mount, the Morning after the Storm* (from the collection of Lord Charles Townshend), by C. Stanfield, 3,000; and the Execution of Lady Jane Grey, 1,500. The collection of 76 pictures realised nearly £31,000, but it was understood that several of the works were bought in.

ELECTRIC WIRING.—In districts which are fortunate enough to be within the area allotted to an electricity supply company it is almost as common to wire the houses for the electric light as to fit them with the necessary gaspipes. A natural consequence of this is that new systems of wiring are constantly being devised, and Messrs. Cook, Smythe, and Payne have patented a "fire-proof system of conductors" which are usually arranged on the concentric principle. An inner metallic tube or rod is kept apart from an outer tube by means of glazed earthenware rings or studs, and the combination, which forms the two conductors, is mechanically protected by a third tube. Wherever rods would be used for hanging pictures or curtains, &c., these conductors may be employed. This system, like that adopted by some of the supply companies in their mains, relies upon air for the insulating material. In practice, the insulation resistance has not been found to be so high as was anticipated, but within a dry building better results may be obtained. The convenience of this form of conductor need not be pointed out but it is not free from risk. It would not be considered prudent to hang weights from gaspipes, and, though electricity cannot leak like gas, any undue strain might bring the positive and negative leads into dangerous proximity.—*Builder*.

Illustration.

INTERIOR OF ST. MARY'S CHAPEL, WESTMINSTER ABBEY.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 779.

IRISH SUN AND PLANETARY WORSHIP.

THE Pagans of a remote period in Ireland are said to have been adorers of the Sun, as their chief God, and in a secondary manner of the Moon, as also of the Stars. Such worship is thought to have been derived from Egypt, Chaldea, and Assyria, where Sabeanism prevailed. With this were mingled omens, divinations, and magic practices. The adoration of the Sun, in all the Eastern countries, was attended with the lighting of fires, in some shape or form; and even the symbols of the great luminary of day appear to have been revered as sacred by many of the Orientals.

Moloch, the celebrated idol of the Ammonites, is supposed to have been a symbol of the Sun, and fires were kindled to honour him by his worshippers. His image in iron is said to have been that of a human body with extended arms, while his head resembled that of an ox. Children were sacrificed to him by the priests, when the statue had been heated by fires lighted around the lower parts of his grotesque figure. Children are said to have been placed in his arms, where they miserably perished, their cries being drowned with the noise of musical instruments.

The worship of Baal or Bel, a Phœnician or Babylonian God, was common throughout the Eastern countries of Asia, at a very remote period, and human victims are said to have been immolated as a part of his worship. While Herodotus calls him the son of Alcæus, others state he was a Chaldean giant. Again, it has been asserted, that he was identical with Belus, the first king of Assyria. There are other writers who maintain that Baal founded the kingdom of Babylon, where he was afterwards deified, and where a temple was erected in his honour. Baal is said to signify the Sun. His worship was extended through Assyria and Persia; while the Baal fires were lighted on his festivals. At a very remote period, the same practices prevailed in Ireland, and these seem to have been introduced by the most ancient colonisers who came from the East.

It is said, that one of the latest of the Tuatha-De-Danaan kings was named Mac Griene, because he was an adorer of the Sun. He was killed in battle by the Milesians, A.M. 3500, according to the "Annals of the Four Masters."¹ One of the ancient celebrities in Ireland was named Eochaidh Ollathair, and otherwise he was called Daghdha Mor, or "the Great Good Fire." He died at Brugh-na-Boinne, A.M. 3450, according to the "Annals of the Four Masters."² The Daghdha Mor appears to have been regarded as a demi-god by the ancient Irish, who also bestowed upon him the title of Ruad-rofhesa, or "Son of all the Sciences."

Ancient traditions have connected Nimrod, "the mighty hunter," with the first adoption

of Fire Worship." The bright luminaries of Heaven, whose motions were so enveloped in mystery, soon became symbols or bodies, which occupied the Orientals' imagination, and taught them to venerate in the leafy groves or on the open hill sides. Thus, those starry orbs were visible and virtual objects of adoration; and the planetary fires were beheld with a submissive reverence by a pastoral and sensuous people, who interpreted the decrees and resolutions of deities, or who predicted a fated futurity, from their various changes and aspects.³

Holy Job, who lived in the land of Hus, following the law of nature and of grace, was simple and upright, fearing the true God and avoiding evil. Doubtless, he had recognised the seductive influence of the Fire or Sabean Worship over the Orientals, when he said: "If I beheld the Sun when it shined, and the Moon going in brightness: and my heart in secret hath rejoiced, and I have kissed my hand with my mouth: which is a very great iniquity, and a denial against the most high God."⁴

The epithet Grian, relating to the Sun, often enters into Irish topography.⁵ Connected with such places, some of our antiquaries have thought that traces of Sun-worship were to be discovered.

Moreover, it has been thought, that remarkable idols had been set up at such places. Near Ballinamore, in the County of Leitrim, is a place known as Edentinnny, meaning the "Hill-brow of fire," and it certainly serves to corroborate such an opinion; for there formerly stood the chief idol of the Pagan Irish, and which was called Crom Cruach. This name has been variously interpreted. Some state that Crom is an Egyptian word meaning "fire"; while others have it, that Crom or Crom-eacha was the title bestowed by the ancient Irish on their Fire God. Again, Crom-dubh, rendered "the black stooping stone," has been a name applied to what Jocelyn calls Ceancoirithi, whom he terms the "chief of all the Gods,"⁶ and he represents St. Patrick as having destroyed that remarkable idol.⁷ Twelve other idols are said to have stood around Crom Cruach; and if these objects of worship had been rude pillar-stones,⁸ as many aver, two of these megaliths are still to be seen within the circuit of a most curious and old fortification, beside the present village of Edentinnny.⁹ It has been supposed, that the large idol was only a rude stone set upright in a central position and representing the sun, while in a circular form the twelve lesser stones around it represented the twelve signs of the Zodiac.¹⁰ Edentinnny was doubtless within the ancient territory of Magb Sleacht.¹¹ The origin of this denomination has been given in the Book of Ballymote.¹²

There is an elevation known as Tullagh na Greine, or "Hill of the Sun," in the County of Clare. On this is said to have

stood the altar of Crom Dubh, or Duagh,¹³ interpreted to mean the "black Crom," or "Crom sacrifice." This is thought to have been a local deity, with whom the idea of a worship had been associated.

The people who dwell near Slieve Callan are said to have sacrificed to their tutelary divinity, on the 1st of August, during the Pagan period of our history. Such traditions still survive in the neighbourhood, and are related by the peasants.

Of megalithic stones arranged in circles, and otherwise placed, there are many remains in Ireland. Thus, on Tory Hill, in the County of Kilkenny,¹⁴ and within a circular space—formerly dedicated, it is thought, to heathen worship, and similar to objects of antiquity which are very generally met with in Ireland—there is still remaining a crom-lech.¹⁵

Also, at a place called Cairngraine, rendered "Heap of the sun," in the County of Antrim,¹⁶ some remains, supposed to have been Druidical, are to be seen.

Besides Stonehenge in England, and similar circular monuments of antiquity, in Wales and Scotland there are various specimens of a like class. Thus, a stone circle, supposed to have been Druidical, is in the Isle of Lewis.¹⁷

On Killiney Hill, not far from Dublin, a place for Sun Worship is said to have been thus laid out, and the ancient relics are still in tolerable preservation. In various other places, thought to be noted for the Worship of the Sun, many curious monuments of the class described are yet to be found.

ST. GEORGE'S BURIAL-GROUND:

BELVIDERE-STREET.

In our number for the 15th ult., we gave a brief historical sketch of St. George's Church, and referred to the erection of a temporary church on part of the new burial-ground near the Royal Canal, before the selection of a more suitable site. We now propose to give a history of the burial-ground; but, before doing so, we must make a little digression, in order to describe more fully the history of its site, and how it was purchased.

About the middle of the ninth century, a Benedictine Abbey was founded on the northern bank of the River Liffey, by an Irish king; or, in the year 948, as Mervyn Archdall tells us, by a Danish king of Dublin. In the year 1139, this monastery was granted to the monks of the Cistercian Order, at which time its name was changed to that of St. Mary's Abbey,—a name still preserved in its adjacent vicinity. Its founders amply endowed it with lands and other hereditaments in various parts of Ireland, but its principal estate in Dublin comprised all that tract of land extending from Ostmantown Green, eastward, to the River Tolka, a fertile district, a portion of which is still known as Clonliffe, or the "Plain of the Liffey."

¹³ This celebration was altogether distinct from that of Crom Cruach, at Magh Sleacht.

¹⁴ See Tighe's "Statistical Survey of the County of Kilkenny," p. 622.

¹⁵ The large covering stone is supported by other upright stones. On that monument was an inscription, said to have been in Pelagic, or, at least, in very ancient characters. That inscription was written in Roman letters, and we are told, that it gave these two words: *Bel Diuose*, which has been interpreted, *Bel Diosos*, or *Bel Bacchus*.

¹⁶ See Dubordien's "Statistical Survey of the County of Antrim," p. 551.

¹⁷ Described, with illustration, by Henry Callendar, in "Proceedings of the Society of Antiquaries of Scotland," vol. ii, pp. 330 to 334.

¹ See Dr. O'Donovan's edition, vol. i., pp. 24, 25.

² See *ibid.*, pp. 22, 23.

³ See "Irish Folk Lore," by Lageniensis, chap. xxii., pp. 182, 183.

⁴ Job xxxi., 26, 27, 28.

⁵ Thus, in the County of Kilkenny, there was a place called in Irish Sleigh-Grian, or the "Hill of the Sun," but now more generally known as Tory Hill.

⁶ He calls it "Caput Omnium Deorum."

⁷ See Colgan's "Iris Thaumaturga." Sexta Vita S. Patricki, cap. lvi., p. 77.

⁸ Several of these were formerly standing upright in the neighbourhood, and some of them have been removed, while others have fallen in situ.

⁹ Many of the houses in this village were built from stones taken from the ancient fort, which is quite convenient.

¹⁰ See Rev. Dr. Lanigan's "Ecclesiastical History of Ireland," vol. i., chap. v., sect. v., n. 45, p. 229.

¹¹ While Rev. Dr. Charles O'Connor has Latinised this Irish denomination as "Campus Excidii," Father John Colgan renders it "Campus Adorationis."

¹² Fol. 220, n. a.

After the English invasion of this country, St. Mary's Abbey received several donations, grants of lands, &c., besides charters from the kings giving power to the abbots to hold manor courts, and to appoint seneschals to administer justice in their respective liberties. Endowed with large estates, and invested with civil power, St. Mary's Abbey, at the time of the Reformation, ranked foremost amongst the wealthy abbeys in Ireland. This monastery, with all its possessions, surrendered to King Henry VIII., on the 20th July, 1537, by whom some of its vast estates were liberally dispensed, the Corporation of the City of Dublin and the Priory and Convent of the Holy Trinity falling in for a reasonable quota.

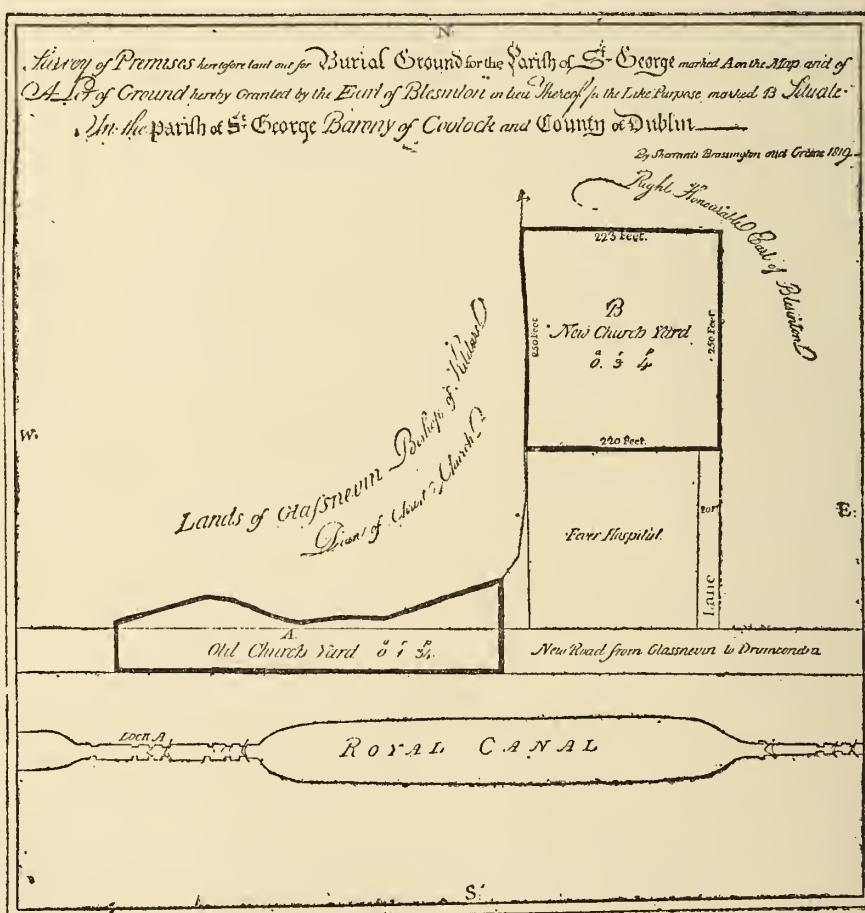
By a charter of King James I., in the first year of his reign (1603), the manor or lordship of St. Mary's Abbey, together with the manor of Glasnevin, were granted to the then newly-incorporated body, the Dean and Chapter of Christ Church Cathedral, who became lords of these manors until the passing of the Towns Improvement (Irish) Act, in 1851. From a return made by the Commissioners appointed to inquire into the Municipal Corporations in Ireland (4th William IV.), we find that this manor, north of the River Liffey, contained "the whole of the wealthy and populous parish of St. George (including within it Mountjoy-square and several of the adjacent streets), as far as the north side of Frederick-street, Great Britain-street from the Rotunda, and the north side of Summer Hill; the parish of Grangegorman, within which are Grangegorman-lane, Manor-street, Prussia-street, Aughrim-street, the populous village of Phibshorough (which may be considered a part of the city itself), and the parish of Glasnevin. Its limits are said also to extend over the barony of Coolock, which comprehends the villages of Howth, Baldoyle, Raheny, Artane, Clontarf, Richmond, Drumcondra, Santry, Cloughran, and St. Margaret's, many of which are very populous; the barony of Castleknock, Barberstown, and, to the south of the river, the important villages of Kingstown, Killiney, Dalkey, Stillorgan, and other places of minor note as far as Bray, all in the barony of Rathdown, are alleged by the seneschal to be included, and jurisdiction is exercised over them; and, in addition to this extensive district, extending six or seven miles to the north of Dublin, and nearly ten miles to the south, over which the jurisdiction of the manor court is stated to have been actually exercised from time immemorial, it is considered by the seneschal that the jurisdiction, although not claimed, includes the City of Dublin itself."

There were two manor courts for the north side of Dublin; the officers of each court consisted of a seneschal, registrar, and marshal. The seneschals were appointed by the Dean and Chapter of Christ Church at their will and pleasure; they had no salaries, but were paid by court fees. The manor court for Glasnevin and Grangegorman was, until the lapse of many years in the present century, held in the large red-brick house in Lower Dorset-street (near the corner of North Circular-road, at the Big Tree); and, until 1851, at the Sessions-house in Green-street. The other, which was for the Manor of St. Mary's Abbey, was held at the reere of No. 6 Mary's Abbey, and now forms part of Boland's Bakery.

But to return to St. George's Burial-ground. The plot of ground originally selected by the trustees of the new parish of

was owner in fee of some property in the vicinity which meared that of the Dean and Chapter of Christ Church, had in contemplation the opening of such a thoroughfare. In the troublous time of the Rebellion of '98, all these proposed improvements fell through for some time. Viscount Mountjoy, who commanded a Yeomanry regiment, was killed at the Battle of New Ross, on the 5th June, 1793, and was succeeded in his titles and estates by his eldest son, Charles John, 2nd Viscount Mountjoy (born 19th July, 1782), who was advanced to the dignity of EARL OF BLESINGTON, County Wicklow, 22nd January, 1816.

During the interval between the death of Lord Mountjoy and the year 1816, no effort had been made towards carrying out the before-mentioned improvements, with the exceptions—(1) that the piece of ground granted by him adjoining the new burial-ground, was not accepted by the Trustees who, in 1802, procured the plot of ground on which the church now stands, and which is described in a deed dated 3rd May, 1804, as "the piece of ground between Dorset-street and Temple-street, whereon the parish Church of St. George is now erecting." The piece of ground at the north-east corner of the new burial-ground, granted by Lord Mountjoy for the site of the new church, was, in 1816, given by the Rt. Hon. John Ormsby Vandeleur for the purpose of erecting thereon a fever hospital, which was opened 1st May, 1818, under the title of the Whitworth Fever Hospital*; and—(2) that when the new hospital was opened, the proprietors found that there was no convenient approach to it, either from Drumcondra or Glasnevin, except by a narrow



St. George for a cemetery, was situate on the north side of the Royal Canal, as already mentioned in our previous article. This plot is not the same as that enclosed for the present cemetery, but was a narrow strip containing only 1r. 34p.*; it ran parallel with the Canal bank, from about a perch above the boundary, westward, of the present Whitworth Hospital to the third lock above Binns' Bridge, and was formerly laid out as a nursery garden.† The road leading from Glasnevin to Drumcondra, now known as "Whitworth-road," was not then formed; but Luke Gardiner (afterwards Viscount Mountjoy, so created 1st Nov., 1795), who

lane leading from the former place as far as the hospital only, which, in former times, had been the only approach to the old nursery garden. In order to effect a better entrance, the trustees gave their proposed new burial-ground in exchange for the present one, and a new road was made, named "Bishop's-road," which was afterwards changed to "Whitworth-road," from Charles Earl Whitworth, L.L. of Ireland, 1813-1817 (See Rev. Dr. McCready's "Street Names Explained.")

At this juncture the young Earl of Blesington availed himself of the opportunity for carrying out the improvements which his father had in contemplation some few years before his death; and, in order to do so, he proposed to give in exchange a piece of ground on his own estate to the trustees, &c. of the parish, in lieu of that which they purchased under the Act of 1793. B.

* See facsimile map annexed.

† In the beginning of Queen Anne's reign, the Huguenots of Dublin encouraged, among other industries, that of floriculture; and in George First's reign, they, together with a few citizens formed themselves into a club, called the "Florists' Club," for the purpose of furthering the cultivation of flowers in Ireland. They held their meetings for many years at the Rose Tavern in Drumcondra-lane (now Dorset-street), where they adjudged premiums to the members who produced the most beautiful flowers.

* See another page.

the consent of all parties concerned, the exchange was effected, and the following Indenture of Agreement duly executed:—

"This Indenture, made the fourteenth day of May, in the year of our Lord one thousand eight hundred and eighteen, between the Right Hon. Charles John, Earl of Blesinton, of that part of the United Kingdom of Great Britain and Ireland called Ireland, the eldest son and heir of the Right Hon. Luke, Viscount Mountjoy, deceased, of the one part; and the Reverend William Bushe, of the City of Dublin, Clerke, Rector or Minister of the Parish of Saint George, in the County of Dublin, of the other part. Whereas by an Act of Parliament passed in Ireland in the thirty-third year of the reign of his present Majesty, King George the Third, entitled 'An Act for making and constituting a new Parish, by the name of the Parish of Saint George, on the ground adjoining the City of Dublin therein described, and for erecting and building a parish church therein': It is amongst other things enacted, [1] that all that parcel of ground within the said intended parish thereafter described, that is to say, that piece of ground at the north corner of a new intended street to be called Belvedere-street, and adjoining the Circular-road, containing in front to the said road one hundred feet, and in the rear the like number of feet, and in depth from front to rear one hundred and twenty feet; and also [2] that piece or parcel of ground containing two roods or thereabouts adjoining the banks of the Royal Canal, then under a nursery garden, should he and were thereby vested in the Rector of the said parish for the time being, and his successors for ever, for the uses following, namely, [1] as to so much of the said ground as lies adjoining the Circular-road, for the purpose of thereon building a parish church, vestry, house, and other rooms, and conveniences necessary for a church, for the use of the minister and parishioners of the said parish; and [2] as to the said two roods of ground adjoining the said Royal Canal, for the purpose of enclosing the same, for a cemetery or burial-ground for the said parishioners, anything in the statutes of Mortmain to the contrary notwithstanding. Provided always that if it should thereafter be found necessary to change the site of the said intended church and cemetery or burial-ground, or either of them, that then and in such case the Rector of the said parish for the time being, with the consent of the Right Hon. Luke, late Viscount Mountjoy (then Lord Baron Mountjoy), the then proprietor of the said ground, and also of the Dean and Chapter of the Holy Trinity, commonly called Christ Church, to change the ground for the site of the said church, or the ground for said cemetery before described, for ground of equal quantity in any other part of said parish, which ground when so exchanged should be and was thereby vested in said Rector for the time being, and his successors for ever, in like manner as the said ground would have been had it remained for the purposes, as by the said in part recited Act of Parliament relation being thereunto had may more fully and at large appear.

"And whereas the said Charles John, Earl of Blesinton, the present proprietor of the said grounds; the said William Bushe, the present Rector of the said parish; and the Dean and Chapter of Christ Church, have consented and agreed to change that

part of the said ground which was intended for the cemetery or burial-ground for the said parishioners, and to exchange the same for the ground situated within the said parish hereinafter mentioned and described and hereby conveyed.

"Now this Indenture witnesseth, that in pursuance of the said recited Agreement, and for and in consideration of the grant and conveyance hereinafter made by the said Charles John, Earl of Blesinton, to the said William Bushe, of the piece or parcel of ground hereinafter particularly mentioned and described; and for and in consideration of the sum of ten shillings sterling to the said William Bushe in hand paid by the said Charles John, Earl of Blesinton, at or before the enrolling and delivery of these presents, the receipt whereof is hereby acknowledged, he the said William Bushe as Rector of the said parish of Saint George, by and with the consent of the said Dean and Chapter of Christ Church, testified by their affixing their Corporation seal hereto, hath given, granted, bargained, sold, aliened, released, and confirmed, and by these presents doth give, &c., unto the said Charles John, Earl of Blesinton (in his actual possession now being by virtue of a bargain and sale to him thereof made by the said William Bushe, for one whole year, by indenture bearing date the day next before the day of the date of these presents, in consideration of five shillings sterling, and by force of the statute for transferring uses into possession), and to his heirs and assigns, All that piece or parcel of ground, containing two roods or thereabouts, adjoining the bank of the Royal Canal, formerly under a nursery garden, situate in the Lordship of Saint Mary's Abbey, Barony of Coolock, and County of Dublin, marked in the map or terchart delineated on these presents with the letter A, together with all the interest, trust, property, claim, and demand whatsoever of him the said William Bushe, of, in, and to the same, and every part thereof, To have and to hold, &c.

"And the said William Bushe, for himself and his successors Rectors of the said parish of Saint George, doth covenant, promise, and agree to and with the said Charles John, Earl of Blesinton, his heirs and assigns, that the said William Bushe and his successors Rectors of the said parish shall and will at any time or times hereafter upon the request and at the proper costs and charges in the law of the said Charles John, Earl of Blesinton, his heirs, &c.

"And this Indenture further witnesseth that the said Charles John, Earl of Blesinton, in pursuance of the said recited Act of Parliament, and in consideration of the said grant and conveyance hereinbefore made by the said William Bushe to him of the said piece or parcel of ground; and also in consideration of the sum of ten shillings sterling to him in hand paid by the said William Bushe at or before the enrolling and delivery hereof, the receipt whereof is hereby acknowledged, hath given, granted, &c., All that and those that piece or parcel of ground situate on the north of the new road leading from Glasnevin-road to Drumcondra-road [now known as Whitworth-road], and containing by survey three roods and four perches of land, plantation measure, be the same more or less, meared and bounded as follows, that is to say, on the north and east by other parts of the estate of the said Charles John, Earl of Blesinton, in the

possession of Mr. James Sullivan or his undertenants, on the west to ground belonging to the Dean of Christ Church,* and on the south by another part [now the Whitworth Hospital], of the estate of the said Charles John, Earl of Blesinton, demised to the Right Hon. John Ormsby Vandeleur and Thomas Burton Vandeleur, Esq., together also with the use of the lane or passage, of twenty feet wide, leading from the said new road to the hereby granted and re-leased premises, and which said premises hereby granted and re-leased are situate lying and being in the parish of Saint George, Barony of Coolock, and County of Dublin, and are more particularly laid down and described in the map or terchart delineated on these presents, and marked B in the said map, together with all the estate, right, title, and interest both at law and in equity of him the said Charles John, Earl of Blesinton, of, in, and to the same and every part thereof, To have and to hold the said piece or parcel of ground, &c., in trust for the purpose of making a cemetery or burial-ground for the use of the inhabitants of the said parish, &c. [Here follow the usual covenants, &c.] In witness whereof the parties aforesaid have hereunto set their hands and affixed their seals. And the said Dean and Chapter have hereunto affixed their seal the day and year first herein written.

"Blesinton [Seal]. William Bushe [Seal].

"Charles (Dean) Kildare [Seal].

"Thos. Brownrigg (Chancellor).

for the Prebendary of St. John's,
Thomas Brownrigg.

"John Rowley, Preb. of St. Michan's.
for Mr. Precentor Richard Graves,
Richd. Graves, Preb. of St. Michael's."

The new cemetery was opened for interments in 1817, and yet apparently not consecrated until the 20th of May, 1824; the measurements and particulars stated in the act of Parliament correspond with those in the Deed of 14th May, 1818, as given above.

Addendum et Corrigendum.

In the hurry of going to press with our issue for 15th ult., a couple of printer's errors may have been observed in our article on St. George's Church. They are:—

Page 111, col. 3, after line 28 from bottom, insert "directories as Belvidere-street, neither does," &c.

Page 112, col. 1, for second last paragraph, read: "On the frieze over the principal front there is a boldly-carved inscription in Greek characters."

CHURCH OF OUR LADY OF THE ROSARY, CASTLEBAR, CO. MAYO.

WE publish with this issue a perspective view of this church, which was the sole example of ecclesiastical architecture on the walls of the Royal Hibernian Academy this year. The design was selected in a limited competition, November, 1890, and tenders for its erection were invited recently in these columns.

* All this property, once the Lordship of St. Mary's Abbey, is now known as "The Bishop's Fields," so called after the Right Rev. Charles Lindsay, Bishop of Kildare and Dean of Christ Church (1804-1831), to whom a lease of the lands was made on the most favorable terms. That part of the "Bishop's Fields," described in the above indenture as the northern boundary of the old Cemetery of St. George's, was let a few years ago, during the small-pox epidemic, by its present proprietor, to the Guardians of the North Dublin Union, for the purpose of erecting hospital sheds.

IRISH ECCLESIASTICAL ART.

A MASSIVE marble pulpit, the munificent gift of Mr. James O'Connor, Mount Cashel, Clapham, is now on view at the establishment of Mr. E. Sharp, sculptor, 180 Great Brunswick-street. It is a memorial to the deceased wife of the donor, and is to be erected in the parish church of Cashel. The design of the pulpit is in the Renaissance style somewhat freely treated, but in keeping with the architecture of the church. Marbles of the richest contrasting hues have been used in its construction. Three sides of the base display seated figures symbolical of Faith, Hope, and Charity, in circular-headed niches; overhead is a bold projecting belt-course, supported by richly-carved consoles of Sicilian marble. The riches marking the angles of the upper part of the structure contain standing figures of the four Evangelists, distinguished by their respective emblems, and on three faces of the octagon forming the enclosure are medallions, the centre one representing "Christ teaching in the Temple"; on either side are illustrated the "Preaching of St. Patrick" and the "Preaching of St. John the Baptist." All the figure sculpture is executed in the purest statuary marble, and the groups in particular are modelled with rare skill. A bold cornice of red, black, and yellow marble crowns the whole work, which reflects the greatest credit on all parties connected with its execution. An open stair of oak, iron, and brass, very floridly treated, is being prepared by Mr. Fagan, of Great Brunswick-street. The pulpit platform is of parquetry, and the parapet is lined on the inside with oak.

The design was furnished by Mr. W. G. Doolin, M.A., architect, of Dublin, who lately superintended the renovation of the church; and among the many works which have been executed there since the appointment of the esteemed pastor, the Very Rev. Dean Kinane, P.P., may be mentioned the magnificent high altar, the gift of a merchant of the town of Cashel; also a Communion rail (both of marble), stained glass, by Messrs. Meyer and Co., of Munich, and Messrs. Cox, Buckley and Co., London, in all the windows throughout the church, which is now in the hands of the decorators.

We invite for this fine work the attention of all persons interested in Irish ecclesiastical art; we can assure them it is well worthy of a visit.

A SMOKELESS LOCOMOTIVE.

THE Illinois Central Railroad Company believes that it has found a locomotive that will run without emitting smoke and at the same time make remarkable speed. The engine is only recently from the Baldwin Locomotive Works, where engines of its pattern have been built for the Philadelphia and Reading Railroad. It is a decided departure from anything that has ever been used on the suburban lines running into Chicago. The main object sought by its inventor and builders has been to do away with smoke and noise, and to increase the speed and other running possibilities. Economy of fuel has not been one of the features provided for in its construction, for it will be necessary to use anthracite coal exclusively under the boilers. In appearance the new engine resembles an exaggerated form of the latest pattern of freight engines. Its massive boiler and heavy running gear tower above the engines now used in the service. Its cab is a third larger than the average engine cab, and the tender is correspondingly smaller. Above the straight high-pressure cylinders on each side, which are 12 in. in diameter, are placed low-pressure cylinders, 20 in. in diameter. The two sets of cylinders work independently, so the engine can be operated either with compound or direct steam. Each of the cylinders is provided with an indicator for the purpose of showing the distribution of the steam. The drive-wheels are six in number and 61½ in. in diameter, and the length of stroke is 24 in.

The boiler is of the Wootten pattern, made throughout of flanged plates of homogeneous cast steel 5-8 in. thick, with a steam pressure of 175 lbs. and test to 20 lbs. above working pressure. The fire-box is also of the Wootten make, 114 in. in length, 80 in. in width and 41½ in. in depth. The grate area is thus unusually large and the blast is light. For this reason the fire will burn with less difference in intensity while the engine is at rest compared with when it is in motion. The weight of the engine on the drivers is 91,000 lb., and the total weight is estimated at 158,000 lb.

NOTES OF WORKS.

A presbytery is about to be erected in Ballinasloe, according to the plans of Mr. W. H. Byrne, architect, of this city.

In the Franciscan Church, Ennis, a bell has recently been erected at the expense of Michael Carton, Esq. The bell was cast at Byrne's Fountain Head Foundry, James'-street, Dublin.

The tender of Messrs. Morrison Bros., Bagenalstown, £1,475 (modified) has been accepted for additions and alterations including new chancel, &c., to the parish church at Leighlin, Co. Carlow. Mr. W. G. Doolin, M.A., is the architect.

On Tuesday last the foundation-stone of the new Convent for the Community of the Good Shepherd was laid at Newtown, Waterford, by the Bishop of the Diocese. Attached to the convent will be an extensive laundry. The architect is Mr. W. H. Byrne, Suffolk-street, and the builder Mr. John Hearne, Waterford.

A memorial window has just been erected in Carrickfergus parish church, to the memory of the Very Rev. J. Chaine, M.A., who was formerly Dean of Connor, and Rector of Carrickfergus. Below the window is affixed the following inscription on a brass tablet:—"To the glory of God, and in loving memory of John Chaine, M.A., some time Dean of Connor, and Julia, his wife; also of Mary, their daughter. This window is placed by Rebecca, William, and Margaret Chaine, A.D. 1892."

The memorial stone of a new church, to be known as St. Barnabas, has been laid by the Lord Mayor of Belfast (the Right Hon. Daniel Dixon, J.P.). The new district has been formed out of the parish of St. James, of which the Rev. Canon Bristow is the rector. The architect of the new church is Mr. Henry Seaver, Royal-avenue, and the builder is Mr. Thomas McMillan, Belfast.

Towards the erection of another church—that of St. John's, Malone—a considerable sum has already been contributed. The cost is estimated at about £4,000.

The Tullamore Board of Guardians are calling for tenders for works and materials required in the carrying out of waterworks for their town. The chief items in the contracts are:—Construction of reservoir, conduit, weir, filters, water basin, and town service tank, excavation of pipe trenches, laying pipes, filling in trenches, supplying and fixing twenty fountains, fire hydrants, sluice valves, &c. Also for supplying 561 tons of cast iron pipes of various diameters. The plans and details are under the superintendence of Mr. Robert P. Gill, A.M., Inst. C.E.I., Nenagh.

At the meeting of the Pembroke Township Commissioners, on the 23rd ult., it was decided to invite tenders for the erection and completion of forty houses for artisans at Ringsend, in accordance with plans and specification by Mr. J. J. Farrall, architect. The tenders submitted will be considered by the board on the 3rd inst. The surveyor was instructed to prepare estimates of the cost of making the road, raising the ground, and constructing sewers, &c., in connection with the above. We hope soon to see this desirable work successfully carried out.

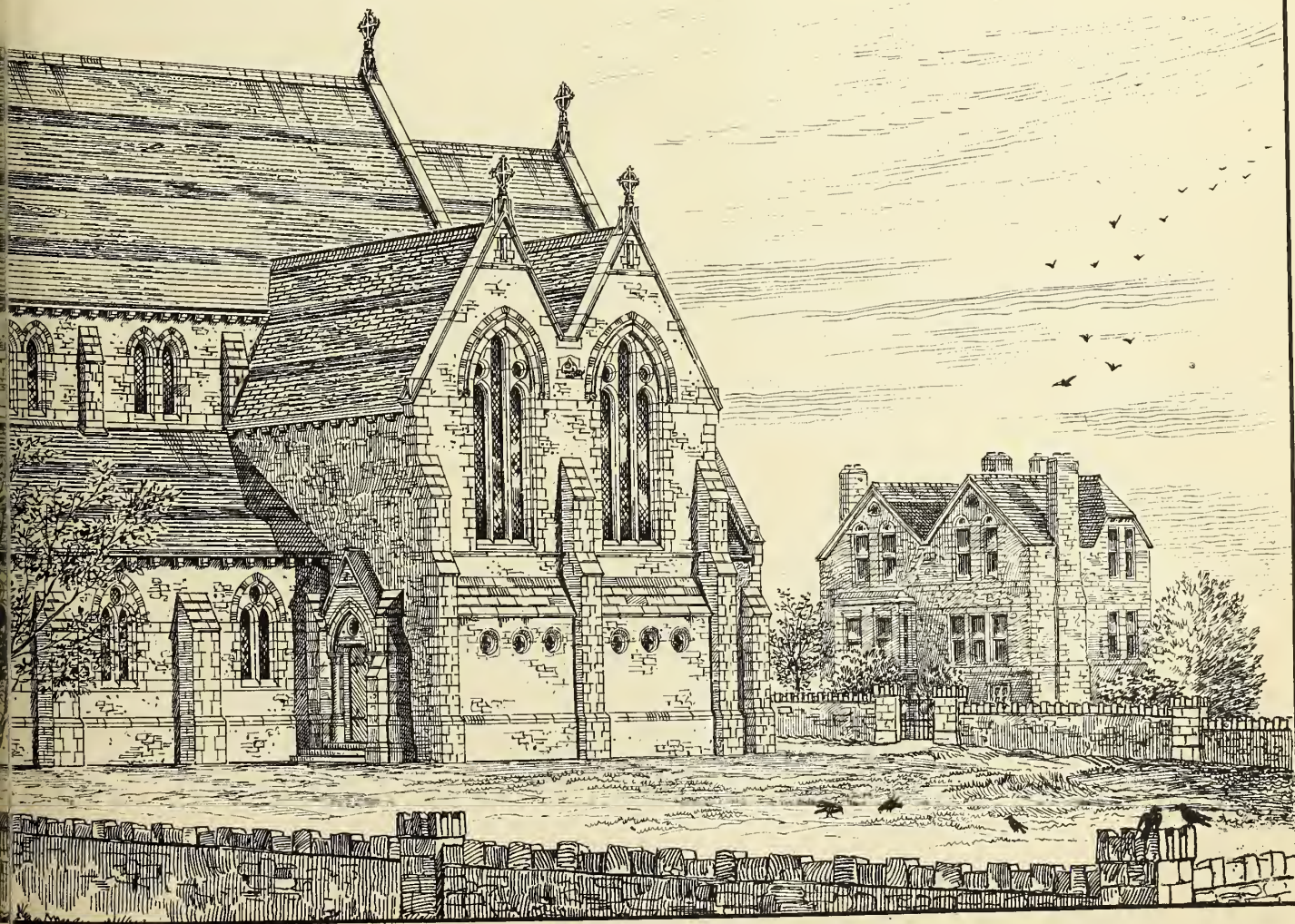
For Messrs. R. and H. Hall, corn merchants, Cork, extensive granaries are about being erected on the Marina, near the old Passage Railway Station, on ground purchased from the Corporation. The contemplated building, which is to run east and west fronting the river, will be about 120 ft. long and 60 ft. wide, divided into two parts by a wall running parallel to the roadway. The front elevation shows a three-storey brick building, relieved by recessed panels, with pilasters reaching to the eaves, to correspond in the same respect with the adjoining mills of the Messrs. Furlong and Sons, in conjunction with which the new granaries would form a very imposing frontage. On the plans being submitted by the City Engineer to the Standing Committee of the Corporation last week, they were highly approved of, and passed without hesitation. Mr. James F. M'Mullen, B.E., M.S.A., prepared the plans for both of the extensive buildings referred to above.

THE FIRE RISK OF ELECTRIC LIGHT INSTALLATIONS.

At an adjourned inquiry into the circumstances attending the deaths of four youths who lost their lives in the fire at Scott's Supper Rooms, 18 & 19 Coventry-street, Haymarket, London, Mr. E. C. Segundo, A.M. Inst. C.E., attended by the coroner's instructions to report on the possible connection between the fire and the electric light installation. He said, that in the house No. 18 there was not very much to be observed of the electric lighting, for the reason that the ravages of the fire had destroyed all traces of the manner in which the wiring had been carried out; but there seemed to him very little doubt that the fire originated in that house, on the ground floor. He had reason to think there was a possibility of the fire having originated at the top of the staircase leading down from the ground floor to the lavatory below. At that point the electric light mains passed for a distance of about 10 ft. or 11 ft. alongside the gas main. For about 3 ft. the pipe would touch the casing which enveloped the main wires, and for the remainder of the distance the pipes would be about 2 in. from the casing. Of course, the pipe might have been bent during the fire, and come into contact with the casing. It was absolutely impossible to say that the fire originated through a leak, but he held that it was quite possible for it to have originated through a leak going to earth from the mains through the gas-pipe, because the circuit supplying the electric light ran down there. It was a question whether that would be sufficient to cause a fire, but he had on more than one occasion himself seen a casing enveloping wires charred by a similar leak, also on an alternate current circuit. He was, therefore, led to the belief that the possibility of its having caused this fire was not remote. From what he observed, he thought it very possible that the fire originated near that place. He was influenced in his conclusion by the fact that the manager reported to him that on several occasions he had had to execute repairs to the wiring, on account of the ravages of rats and mice. He did not think there was anything in the installation itself so seriously bad as to leave room for any charge of reprehensible neglect on the part of those whose duty it was to carry it out, but sufficient care, perhaps, had not always been taken to avoid metal pipes—a very important point in laying wires, especially on alternate circuits. Although the insulation was of a very fair character, he thought it should have been done more heavily, particularly the mains which carried the wires near the gas-pipes. It was extremely unwise to systematically conceal wires behind panels, under floors, or in plaster. These mains were so concealed, and the gas-pipes plastered over. He understood that the building was insured in the Phoenix Office, but he was sure that their inspector would not have tolerated the position of the wires if he had known their proximity to the

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LADY, * CASTLEBAR. *←

COMPETITION.

W. G. DOOLIN, M.A., ARCHT

gas-pipes. Owing to the systematic way in which wires were concealed, there were no means of judging of the danger of the work. Supposing the fire to have originated through a leakage, the accident could have been avoided had the installation been subjected to an intelligent test from time to time. Had the wires in the first instance been designed so as to facilitate examinations and repair, any leak could have been discovered, localised, and remedied. His conclusion was that it was possible, and he would say probable, that the fire was caused by a leakage in the electric wiring, more especially if rats and mice had been gnawing at the casing. It seemed to be possible to put into a house an electric installation which might be of the greatest possible danger, and it was to be regretted that there were no set rules for the performance of the work. The danger of fire from an installation of the electric light appeared to be greater than in the case of an escape of gas, there being no smell, which was a matter which was well deserving of serious attention, as the electric light was being so widely used.

TENDERS.

For building green-room and dressing-rooms, scene-room, painting-room, &c., Half Moon-street, Cork, for the Cork Opera House Company, Limited. Mr. R. Walker, architect, 17 South Mall, Cork :—

| | | | | |
|-------------------------|----|----|----|--------|
| R. W. Johnson | .. | .. | .. | £2,477 |
| S. Hill | .. | .. | .. | 2,135 |
| B. M'ullen | .. | .. | .. | 2,063 |
| J. Sisk | .. | .. | .. | 2,000 |
| J. Delaney | .. | .. | .. | 1,950 |
| S. Thomas | .. | .. | .. | 1,850 |
| W. O'Connell (accepted) | .. | .. | .. | 1,822 |
| J. O'Flynn | .. | .. | .. | 1,689 |

For new chancel, chapels, and sacristy at the parish church of Leighlinbridge, near Bagenalstown, Co. Carlow. Mr. W. G. Doolin, M.A., architect. Quantities by Mr. D. W. Morris :—

| | | |
|-------------------------------|----|--------|
| Morrison, Bros., Bagenalstown | .. | £1,475 |
| (Modified and accepted.) | | |

AUTOMATIC TIME RECORDER.

THE Columbian Time Recorder Company, of Frankfort-street, New York, are introducing an automatic time recorder. It consists of a polished oak case, 17 in. high, 14½ in. wide and 7 in. deep, in which the working parts are enclosed. On the top of the case is a slot in which the checks are dropped, and on one side the face of the clock. Each employee is known by the number on the check which he carries. The employee in passing the recorder drops his check into the slot at the top of the box and receives it in the other hand at the bottom. Checks can be recorded in this manner, one workman following another in succession, at the rate of fifty or more a minute, or they can be passed through the recorder by a single individual at the rate of 125 a minute, the machine recording each check in a perfect manner. It makes no difference which end of the check goes into the slot at first, as the raised numbers for printing the record are near both ends of the check. The interior construction of the recorder consists of a train of gears, operating a hammer; a stop for the check, which also closes the slot; hour and minute wheels operated by an eight-day double spring Seth Thomas movement; an inked ribbon and suitable reel for carrying the roll of recording paper. The check upon entering the slot is guided in its course downward by runways until it strikes an arm, which stops the check, holding it until it is recorded by a hammer, and, at the same time, closes the slot, so that but one check can be put into the slot at a time. The blow from the hammer releases the check, allowing it to drop out of the case, and also opens the slot for the reception of another check. The various operations which are gone through during the passage of the check from the time it enters until it leaves the case, while seeming complicated when given in detail, are in reality very simple, and only

occupy a second of time or less. The manufacturers have made no effort to construct a cheap recorder, but, on the other hand, have experimented until it has been brought to its simplest possible form, and so perfected it that there is apparently no chance of it getting out of order nor breaking down. Each individual part is made of the best material and heavier than the requirements of the work would suggest as necessary, making the life of the machine almost unlimited. As a record of each employee's time is made by himself, it is only necessary to produce the slip to settle any dispute which may arise regarding the time work was begun or ended. The slip may be written up during the day, at the end of the week, or at any intermediate time, as desired. The case is locked, and the key in the possession of the proper person, so that no meddling with the works is possible.—*Invention.*

WHITWORTH FEVER HOSPITAL.

THIS Hospital (erected on the proposed site of St. George's Church, which was given for that purpose by the Rt. Hon. Luke Gardiner under the Act of Parliament (33 Geo. III., 1793), and on which was erected the temporary church mentioned in our article on St. George's Church, was opened on the 18th of March, 1818, for the reception of persons labouring under *infectious fever*,* and residing in the north side of the city. It was built, and is entirely supported, by voluntary subscriptions. It is capable of supporting fifty patients. Its first patron was :—

His Excellency Charles Chetwynd, 3rd Earl Talbot, Lord Lieutenant.

Patroness: Her Grace the Duchess of Dorset. President: His Grace the Duke of Leinster.

MANAGING COMMITTEE.

Mr. Thomas B. Vandeleur, Gloucester-street.
Mr. Adair, Mountjoy-place.
Mr. R. C. Walker, Gloucester-street.
Dr. Boyton, Dominick-street.
Rev. Wm. Bushe.
M. S. Montfort, Esq., 15 Prussia-street.
Thomas Parnell.
Mark Monserratt, 55 Summer-hill.
Mr. French, Eccles-street.
Mr. Cowley, Gloucester-street.
John Classon, Blackhall-street.
Mathew Boyle, 35 Mary-street.
Alderman Cash, Granby-row.
Mr. Hall, Gloucester-street.
Alderman James, Rutland-square.
Mr. T. Ball.

PHYSICIANS.

Dr. Leahy, Marlborough-street.
Dr. M'Loughlin, Middle Gardiner-street.
Dr. Morgan, Henry-street.
Dr. Stack, Harcourt-road.

SURGEONS.

W. Wright and Robert Adams, Esqrs.

THE BREHON LAWS.

In the House of Commons on Monday, Mr. Matthew Kenny asked the Chief Secretary to the Lord Lieutenant of Ireland if he could state when the remaining parts of the Brehon Law Tracts, which it is understood that Professor Atkinson has been engaged in translating, would be published?

Mr. Jackson said the fifth volume was nearly completed, and the sixth was in an advanced state of preparation. The editor hoped to have the volumes, which would be published concurrently, ready by 1893.

DUBLIN MAIN DRAINAGE.

THE Attorney-General for Ireland has obtained leave to bring in a Bill to confirm a Provisional Order made by the Local Government Board for Ireland under the Public Health (Ireland) Act, 1878, relating

to the drainage of the City of Dublin, and to enable the Corporation to borrow in excess of their statutory powers.

PLATE GLASS MANUFACTURE IN GERMANY.

—The United States Consul-General at Frankfort, in his last report, says, in reply to instructions received from his Government to supply certain information concerning the grinding and polishing of plate-glass for mirrors as practised in Germany, that there is no manufacture or export of plate-glass in southern or western Germany, except in the consular districts of Aix-la-Chapelle and Fürth. At the latter place the United States Commercial Agent succeeded, in the face of many obstacles, in obtaining information upon the subject, the substance of which is given below. Consul Mason remarks that information upon the subject of plate-glass manufacture is all but impossible to obtain in Germany. The whole plate-glass manufacture in the Frankfort division is concentrated at the two places above mentioned, and all the manufacturers are leagued in a syndicate or pool, and access to their works is rigidly denied to everyone, especially to Americans. The reason of this is, according to Consul Mason, that most of the German manufacturers live in fear that in some way Americans will discover the secrets of their trade and transfer their industries to the United States, with the result of ultimately destroying their best foreign market. The works, where nearly all the white German looking-glass used in the United States is blown, are situated near the borders of Bavaria and Bohemia, near the city of Egar in Bohemia. There are numerous large and extensive works besides innumerable smaller ones, the greater number of which belong to a pool, which regulates production, prices, &c. The greater part of the glass, when blown, ultimately finds its way to the city of Fürth, in Bavaria, where it is stored in a pool warehouse, whence it is delivered to members of the pool, no one outside that organisation being able to purchase a single square foot, the capacity of each manufacturer being well known, and no increase of manufacture above a certain percentage being permitted. After leaving the glass-blower's hands, the plates are quite rough, and it becomes necessary to grind them. There does not appear for some time to have been any material improvement in the method of grinding, though perhaps there has been in the machinery. The glass is fastened to a marble or cast bed of sufficient dimensions to receive the largest plates. If necessary, smaller plates are used to fill the table. The plates are held in place by a thin bed of plaster of Paris, the moisture of which holds them securely. The upper plate is turned upside down while the glass is being placed in position, and, when ready, is turned over carefully. Both the upper and lower beds revolve in different directions. The grinding material is coarse sand at first, a finer quality being used consecutively until the plate is finished. The time required varies, from sixteen to twenty-four hours being generally necessary for this process. The next process is that of polishing the plate, to make it transparent, preparatory to the silvering. The same kinds of beds are used as in grinding, with this difference, that they are stationary; and the plates are held in position in the same manner. The polishing is done by running square discs, covered with felt, backwards and forwards across the surface. The tables usually stand in dozens, six on each side, so that, as the rubbers move backwards and forwards, no motion or power is lost. In most of the works, the disc revolves by the motion of sliding across the surface, but in one important factory a new polisher is in use, to which a rotary motion is given by chain gearing, which performs the work in about half the usual time—fifteen minutes instead of thirty. The polish used is a native Bavarian product and is called *potte* or *bolus*, it being an earth strongly impregnated with iron, and is kept moistened during the process, one man being required to attend six machines. As many pieces of glass may be laid upon the polishing table as it has capacity for, it being generally 30 in. by 90 in. If bevelling is required—and the greater number seem by the demand to require bevelling—the plates are removed to an iron or stone cylinder 12 to 15 in. in diameter, revolving slowly, where the edge to be bevelled is held by the operator on the face of the grinder, moistened sand being applied at the same time to the stone. A frame at the end serves to hold the glass from slipping, and steps upon this, regulate the angle of the bevel. Expertness on the part of the workman is essential in this operation. From the grinding of the bevel, the glass is taken to a round polisher, where the bevelled surface is held upon a felt cylinder supplied with *potte* until it is polished. About fifteen minutes are required for the process.—*Jour. Soc. Arts.*

* Sir Charles Cameron, in his "History of the Royal College of Surgeons," says:—"The Whitworth Hospital at Drumcondra does not now [1886] receive infectious cases."

SCIENCE AS RELATED TO ART.

THE following are portions of the address delivered by Mr. T. H. Harrison, F.R.I.B.A., at closing meeting of the Liverpool Architectural Society, on the 2nd ult., as given in *Journal of R.I.B.A.* :—

It is no doubt true that not only poets, but all other artists, are born, not made. That is to say, that learning cannot take the place of a natural faculty for art, or make an art-genius. Unfortunately, or fortunately, we cannot all be blessed with genius, and those of us who are not so blessed cannot well have too much making. But it does sometimes happen that those who do possess genius fail lamentably, and are left behind by those who possess the equally admirable faculty for work, thereby making themselves happier men and more useful citizens than those who rely upon their greater natural gifts. Of all things the artistic genius seems to have the greatest horror of the injurious effects of science, which he considers the direst enemy of art. It is difficult to understand by what process of thought he can have arrived at such a conviction.

We would remind the knowledge-hating art genius that 400 years ago there lived a man of Florence, one Leonardo da Vinci, who was at once the greatest artist and the greatest scientist of his time. He painted on the refectory wall of a Dominican convent his famous work of "The Last Supper," the greatest achievement of painting the world had up to that time seen. He was an architect employed in Milan Cathedral, and carried out various engineering works. He studied the science of anatomy far beyond the necessities of art, and has been pronounced by the great Dr. Hunter to be the first anatomist of his time. His anatomical studies and sketches, now at Windsor Castle, prove that he made discoveries in this science usually supposed to have been made a century later. He also possessed a vast knowledge of botany, mathematics, mechanics, astronomy, hydraulics, music, and engineering. When a pupil, he painted the figure of an angel in the composition of his master, Andrea Verocchio, which was so lovely and superior to the rest of the work, that Andrea Verocchio gave up the pursuit of art in despair. Here was an art-genius who was not only born but made also, and surely there never was or will be a genius so great as to be unimprovable by the acquirement of knowledge.

But, as a matter of fact, do our present-day artists dispense with science? Is not art really founded upon the laws of nature? Does not the landscape-painter profit by the study of clouds as a branch of meteorology? Is not a knowledge of the bones and muscles of the human frame, their distribution, attachments, and movements, necessary to the sculptor and figure-painter? Does not every art student familiarise himself with the laws of perspective? To pose a figure properly, an artist must know something of the laws of mechanics and the centre of gravity, if he wishes to avoid the blunders committed by artists before this branch of scientific knowledge was known. Surely, too, he must be well acquainted with the laws which should govern the use of colour, and know what colours are the complementaries of other colours, and their relative values as to area and intensity. These subjects are all purely scientific. The most diligent observation, unaided by science, will not preserve an artist from error, but science more than anything cultivates and strengthens the powers of observation.

The first essential of a good work of art is that it shall be true; to say that a work of art is untruthful is to say that it is opposed to some natural law, or, in other words, that it is unscientific. The highest productions of art, and the highest appreciation of these productions, can only be attained by the aid of scientific knowledge. The learned man must ever be a better critic than the ignorant man. One by the aid of knowledge understands what he sees, the other accepts the

false for the true, or rejects the true for the false, from his ignorance of the nature of things, that is, his ignorance of science.

That nature is the source of the inspiration of art is an accepted truism; other things being equal, that artist is the best artist who is most saturated with a love of nature. What is science but a study of nature and her laws? We may, it is thought, safely say that the more a man knows of nature the more he will love her. Science is nature investigated by the intellect, which digging deep has discovered her laws. Is it necessary that art should be content to look no deeper than the superficial shows of nature, while science is willing to teach her that, although these surface views are indeed lovely, they are but the outward and visible signs of poems without end of unspeakable beauty? Can we think less of nature's face as we learn more of nature's mind? To one artist a smooth rounded rock, with grooves in it, means a certain form and so much colour, which may perhaps be altered to suit his views of picture-making; to the scientific artist the same form and the same colour would certainly not be less visible, while he would also see that it was a piece of nature's wondrous mason-work, wrought with glacial ice as her chisel hundreds of thousands of years ago.

The fine art productions of a nation should be an expression of the thought of, and in harmony with, the mind of a nation, or they will not give the pleasure which it is their primary function to convey, because they are not the natural products of the national mind; nor would they convey to posterity, as do the art remains of Egypt, Greece, and Rome, the history of the nation written in art. What is the mental condition of our own country now, when ten years more will see us launched into another century of possibly far greater progress than we have yet dreamed of? Every child is educated in science and art, and there is no impassable barrier to prevent the humblest child who has passed the highest standard of a board school from obtaining the best education the nation can give.

Almost every town has its science and art classes, technical school, school of art, library, and museum, and it is not unlikely that every rural village may in the near future have similar appliances for instruction. The public schools, which formerly taught classics almost exclusively, now have a modern side—that is, a science side. There are field clubs for the study of natural sciences; and learned societies, philosophical and scientific, are everywhere. Science is producing appliances which are revolutionising our industries, and will probably reach limits in years to come far beyond what we can now conceive possible. We are told that the further the land of science is invaded, the grader are the views and wonders beheld on all sides and beyond.

The names of Darwin, Mr. Huxley, and Mr. Spencer are familiar to every ear. Science progresses in an enormously increasing ratio; every discovery, however important, seems to be but a key by which the gate of another and greater field is unlocked. The social atmosphere of England is filled with science. Would it not be a shame upon architecture, which for so many centuries was a leader, if she should now choose to be the one laggard in a scientific age? Can architecture ignore science while a world of scientists are watching her operations?

Engineering grew out of architecture, adopting and developing her science, and leaving her art behind. It is now the duty of the engineer to produce strictly utilitarian work that will pay, and upon which no money may be spent in appearances. Suppose the engineer were also an artist, and less fettered by economic considerations, architecture would indeed have to look to her laurels. The Forth Bridge might have been as great a wonder of art as it is now a wonder of science. Why should not architecture more than ever be constituted by a wedding of science and art? Might it not by such a union be able to

achieve greater things than engineering or architecture has ever yet accomplished singly?

Science is every day being regarded by Religion as less of an enemy, and has made a very distinct impression upon religious faith and feeling, and must in time, therefore, largely modify religious art. The world is every day seeing more and more clearly that one of the great secrets of the health and happiness of human life, and the best means of prolonging it, are to be found in a knowledge of and obedience to the laws of nature.

A scientific world is seeing, and will further see, that the works of the architect—which are, perhaps, the works most important to its welfare—are in harmony with the teachings of modern science, and it will, and rightly so, look after the useful and necessary side of architecture first, and the fine-art part of it afterwards; and architects will have to provide what is demanded of them.

Perhaps the best proof that science is not opposed to art, lies in the fact that side by side with the progress of science there has been a wonderful stride in the advancement and popularisation of art. Science and art schools teach side by side; we have a Science and Art Department. The work done at South Kensington has been enormous, and we can see the fruits of it in every house we enter and every shop we pass. Think of the textures, the furniture,—in fact, every article capable of showing the effect of taste and design, as compared with twenty-five years ago. Those who are old enough to look back so far will at once say that the improvement in taste is indeed great. This improved taste is provided for in the church, the theatre, the hotel, and in almost every building devoted to the public use.

Surely, while science and art thus advance side by side in the same country at the same time, they cannot be enemies; but it is thought to be convincing evidence that they are the best friends. Science, too, is the friend of art in another way; the applications of her teachings have been mainly instrumental in producing wealth and, as a result, art patrons.

The railway train—hated of Ruskin—has played, perhaps, the most important part in this matter, and has also, by intercommunication on land, done what the steamer does on a still larger scale by bringing together people and countries previously remote—these two products of science civilise the savage and advance the civilised; and advance in civilisation means advance in art.

The study of science and natural philosophy gives strength and reasoning power to the mind. The study of art cultivates imagination and the emotions. If the reasoning, philosophical, and argumentative side of a mind is over-developed, it often results in a nature hard, dry, hypercritical, and purely utilitarian, knowing little of the beauty and happiness of life, and being fettered in its range by a lack of imagination which enables the mind to bridge over chasms in the field of facts, and fly where otherwise it would have to grope. If, on the other hand, the emotions and imaginations are unduly cultivated, it lacks the strength and vigour necessary to patient investigation and self-control, is apt to fly and wander without purpose, and to be led into error by jumping at conclusions that reason would never have arrived at,—so "fools rush in where angels fear to tread." Imagination uncontrolled by reason is madness, which has often been the fate of the poet, painter, and musician. A well-balanced mind is the happy medium between these extremes, and is calculated to produce both the useful and the beautiful in a higher degree of excellence than can be accomplished by minds that are either all imagination or all reason. The study of architecture, which is a combination of science and art, is perhaps more than any other study calculated to produce minds fully capable of appreciating both the beauty and the reason why of what they see, and to develop men having "a right judgment in all things."

It is sincerely to be hoped that art and science will, especially in architecture, be more and more closely bound together, so that in her works the useful will be the better served by her knowledge of art, and the beautiful enhanced by the deeper, truer knowledge and greater love of nature which science will unfailingly give to those who ask it of her; so that the general comment upon the work of the architect may be, "While reason drew the plan, the heart informed the ready hand, and fancy lent it grace."

HISTORIC MEMORIALS OF LEIX.

(Continued from page 119.)

AFTER taking possession of the Castle of Ballylebane, General O'Neill marched towards Castlecomer, in the barony of Idough, County of Kilkenny. That castle was held by a gentleman named Richard Butler, who appeared, and when informed by the General that it was necessary to have such a thoroughfare town secured to his party, the castellan answered that he would engage to hold the place against all comers, and subject only to the Catholic General's direction. Accordingly, having sworn an oath to that effect, Owen Roe pursued his march towards Kilkenny city, while General Preston and his army took up a position on the River Nore, where he threw up some half-moons and redoubts to obstruct the passage. However, when O'Neill approached, and made a reconnaissance of that place, he despatched Colonel Roger Maguire with his regiment to cross the river, about a quarter of a mile west of Preston's works. This commission was very successfully accomplished, and when within musket-shot of the works, these were evacuated, when Preston's army retreated in a very disorderly manner, and pursued by O'Neill to the very walls of Kilkenny city.

There Preston and his army sought to move the Supreme Council for admission within the gates, spreading also a false report, that they had been driven thither by a force amounting to 20,000 men. But, the Council would give no such permission, and Preston was ordered to pitch his camp between O'Neill and the city. Close to the church wall and "under the shelter off Kinagha,"¹ they were forced to encamp. Had the Catholic General summoned the city to surrender at that time, such was the panic and state of confusion reigning within, it is probable the Supreme Council would have surrendered at discretion. However, for reasons best known to himself, O'Neill chose to pass the Nore, and he took up a position about two miles west of Kilkenny.

It would seem from his further movements towards Bernanely, that General O'Neill wished to meet Inchiquin, who retired before him.² No sooner had O'Neill marched from Kilkenny, than Preston resolved on creating a diversion. Accordingly, his forces marched to Ballynakill, in Leix. There he continued for three weeks, and in the meantime, he preyed and plundered even the Confederates of that town and neighbourhood.

Articles of agreement had been signed between Colonel Lewis Moore and Francis Cosby, whereby it was covenanted, that the house of the latter, formerly belonging to the Franciscan Friars, should be delivered to the former, who agreed to place Captain Richard Dayne there with a competent number of men to guard it. Likewise, it was concluded, that the aforesaid Francis with all his retainers in that house should go, with all such of their goods, bag and baggage, as they could then carry away, with proper carriage, besides all their horses, cows, garrons, sheep and swine. It was agreed, that Colonel Moore should safely conduct and convoy the said Francis, with as many as should go, with all his luggage and

carriage to the Naasse, when he should be able to proceed within five days, and during the interval of his stay, a room for his lodging was to be provided within the house, nor during the interim was any waste or spoil of any provisions that concerned him to be made. It was further agreed, that the said Francis should leave with all his arms, and that he should have all the corn belonging to him, which he could take away. Moreover, it was agreed, that whatever number of inhabitants or servants of the house or town desired to remain behind, should be safely convoyed to whatever place they shall demand, together with their goods and corn.³

These conditions were punctually observed, and so much of Cosby's goods as he could then carry with him was allowed. But, according to that covenant, whatever he left behind was to become the property of the Friars Minor to whom the house belonged before the time of its legal suppression. The terms had been submitted to General O'Neill, likewise, and he approved of them. While Preston remained at Ballynakill, he had sent before him to Stradbally Colonel Wall with 1,500 foot, with five or six troops of horse. These were intended to open the march which he intended to make on Athy, as he deemed that town could be easily taken, while General Owen Roe was so far removed with his main force.

At this time, Stradbally appears to have been in a great measure deserted, owing to the poverty of the country and the waste brought upon it by the war. Only two poor Friars, Father Paul Geoghegan and Father James Geoghegan, cultivated a small garden, in which peas and other vegetables were planted with their own hands, for they lived like hermits on the produce of their own industry. Some poultry they had, likewise, within their enclosure. However, those poor men, belonging to the ancient Irish race, had incurred the displeasure of General Preston, because they were known to have obeyed the Nuncio's and the congregation's decree. Accordingly, when the advanced guard of his army reached Stradbally, now without protection, the soldiers wantonly broke into the Friars' grounds, and ran among their geese, killing them all to the number of twenty-four or thirty. This was done in the presence of Father James, who happened to be out of doors and in his religious habit at that time, and who feared no outrage of the sort at their hands. Observing such misbehaviour on the part of the troops, he indignantly remonstrated, and thought that they had dared to act in such a licentious manner because none of Preston's officers were present to curb their misdemeanours. Hearing that tumult of voices without, the other religious soon appeared on the scene, and found the soldiers flourishing their swords and pistols. Father James then endeavoured to shut the gate to prevent them from proceeding further, until some commander should appear. One of the troopers belonging to Captain Pierce Butler, the son and heir of Lord Galmoy, presented his pistol at Father James, and swore he would shoot the Friar unless he opened the gate. The latter persuaded him to have patience, and on promising with an oath if admitted, that he would do no mischief, he was allowed to pass. No sooner, however, had the trooper gained entrance, than taking his pistol by the barrel he aimed a stroke at the Father's head. Lifting up his hand as a guard, the stroke fell upon it, and cut him to the very bone, blood flowing freely from the wound. This caused no remorse of conscience to the rough soldier. On the contrary, leaping into the orchard, he pulled down the unripe fruit, and wantonly broke the boughs of the trees. Then the Friar promised, if he should desist, the fruit should be brought to him in a civil way, by the garden door. Whereupon the trooper answered him with a great oath, that if he did not leave the spot he should be killed as

remorselessly as if he were a chicken; and then he told Father James, that he might rest assured all their party must be in the same place within an hour.

INTERNAL ILLUMINATION OF BUILDINGS.*

THE art of internal illumination of buildings, the author considers, is just born, and will be an art in the future. Electricity is rendering theatres bearable and houses healthier, while the architect is brought face to face with a new art, in which the aid of the electrician is required to solve some of the difficulties. History is silent as to the origin of tallow, pitch, wax, and oil, but gas as an illuminant came in with the present century. From the earliest days history, whether culled from paintings or writings, teaches that lights have been dim and crude until the middle of the present century. Light, by whatever means generated, follows the same laws, and is due to the rapid rhythmic undulations of the medium called ether that fills all space. Wherever there is light there is heat, and the hope of the philosopher to supply light without any heat at all is at present but a dream. Light cannot be produced without heat, and the higher the temperature the brighter the light. Colour varies with the rate of vibration of the ether, while changes of colour are due to the changes of wave-motion of the ether. Light may become so intense that all sense of colour is lost, and very bright illumination causes all colours to appear whitish. If light emanates from a point, its intensity diminishes with the square of the distance. The candle is the British standard source of light, and the bright surface produced by it at a distance of 1 ft. the standard illumination by which to measure the amount of light distributed by any other means. This standard Mr. Preece calls a "lux." The great problem is to diffuse light throughout a room so that it be distributed uniformly over the working surfaces with an intensity of a lux. Sixteen-candle glow lamps suspended 8 ft. above the floor and fixed in 8 ft. squares, effect this very well; and groups of four such lamps fixed 16 ft. high produce a similar result. The light a lamp gives is owing to the expenditure of energy in its carbon filament; an electric current is driven through this filament by electric pressure, its resistance is overcome, it is intensely heated by the proceeding, and the result is pure unadulterated light. The energy expended per second by an ampere (the standard current), driven by a volt (the standard pressure), is called a watt. A sixteen-candle glow lamp takes sixty-four watts, which, assuming the lamp to be fixed 8 ft. high, means that one watt per square foot of surface is required to secure ample illumination from lamps so fixed. Therefore, in designing the normal illumination of rooms, Mr. Preece takes the floor area in square feet and divides it by sixty-four, which gives the number of sixteen-candle power lamps required, fixed 8 ft. high, these being increased or diminished according to the purposes of the room, its form and height, &c. The adaptability of the eye to nearly every degree of light is very great, and it is almost impossible for it to judge accurately of the amount of light present; but it is not as a mere source of light that the glow lamp is superior to the gas-burner. The former can be put anywhere, and used without the adventitious aid of match or fire. It does not vitiate nor unnecessarily warm the air, and it simplifies the problem of ventilation, while it lends itself above all to the æsthetic harmony of furniture and decorations. Electric light is not always absolutely safe; security is to be obtained only by good design, perfect materials, first-class workmanship, and rigid inspection. Imperfect materials erected by cheap contractors lead to many disasters; on

¹ This spelling is used for St. Canice, the patron saint of Kilkenny.

² See John T. Gilbert's "Contemporary History of Affairs in Ireland from 1641 to 1652," vol. i, part i. "Aphorismical Discovery of Treasonable Faction," Booke the Third, chap. xxiii., pp. 247 to 251.

³ This agreement was signed by Adam Loftus, acting as agent for Cosby, and by Lewes Moore. The instrument is dated 1st of October, 1646.

* Abstract of paper by Mr. W. H. Preece, F.R.S. Read at the Royal Institute of British Architects on the 16th ult.

the other hand, it is stated no fire has occurred in buildings fitted up under the rules and regulations, and inspected by the officers of the insurance companies in this country. Mr. Preece advocates keeping everything as much as possible in view, and not hiding the conductors under wainscots or floors or above ceilings. The glow lamp excited by three watts per candle is at present the most perfect source of domestic light, and when the patent expires—in a year or two—will be obtainable at one-third the present price. It is scarcely fair, Mr. Preece thinks, to say all light should come from the side of a room, as Lord Beaconsfield stated in *Lothair* when describing the lighting of Belmont. The House of Commons is one of the best-lighted chambers in London, and is lighted from the roof, a false glass ceiling excluding the heat and glare, and admitting only the light. What is wanted is to avoid the glare of the incandescent filament in the eyes, and to prevent the lamp from being too obtrusive; it can be shaded from the eye without its effectiveness being destroyed, and without the flow of light being obstructed or its quality being deteriorated. Judging from the Crystal Palace Exhibition, at which several leading firms have not exhibited, the electric light fitter has not seized upon the spirit of the age, which is the rule of science over mere convention aestheticism. Two exhibits at the Crystal Palace, however, especially deserve, the author considers, inspection. The one is a Tudor ribbed ceiling erected by Messrs. Allen and Mannoch, who have applied glow lamps to the moulded intersecting pendants in such a way that the feeling of the artist is maintained by day, and is rather intensified, and not marred, by the artificial illuminant at night. The other is a bold attempt of Messrs. Rashleigh, Phipps, and Dawson to design in ironwork the whole of the fittings of a dining-room, so that they shall, in combination, convey an idea. The artist (Mr. Reynolds) has attempted to symbolise the solar system, the centre light over the table representing the sun, and the brackets on the walls the planets. A survey of the Royal Academy pictures, the author thinks, affords instructive study. There are many interiors, but few into which artificial light has been introduced. Having described several pictures in which artificial light has been introduced with more or less successful results, Mr. Preece, in conclusion, said he considers that Science is advancing with giant strides. Science has subdued nature so as to bring it within the compass of the human intellect, and Art must follow the knowledge thus acquired. These two being the chief instruments of modern civilisation, the architect and engineer must work hand in hand.

MISCELLANEOUS.

A LARGE BLOCK OF STONE.—The lofty stone monolith, which Wisconsin will exhibit at the Chicago Fair, will remain at Jackson Park permanently, the park commissioners having given their consent. The monolith is 107 ft. high, and cut from a solid block of stone. The contract for its erection has already been let.

CHURCH STRUCK BY LIGHTNING.—During a severe thunderstorm that passed over Derby on the morning of the 25th ult., the old parish church of St. Werburgh, which is shortly to be rebuilt, was struck by lightning. One of the pinnacles of the tower was displaced, and the heavy stones, crushing through the roof of the building, fell upon the chancel floor below. Fortunately no persons were injured by the occurrence. The damage is very considerable.

CORROSION OF BOILERS.—In engineering circles, says a contemporary, considerable interest has been excited over a process which has been discovered for enamelling the interior of boilers, with a view to the prevention of corrosion and incrustation. Experiments have been proceeding with the process for the last three years, and the results are certified by firms in Glasgow to be of a most surprising and successful character. Further tests are being applied, and if what is claimed for the process is definitely attained the gain to engineering generally will be great.

TIMBER IMPORTS.—The *Timber Trades Journal* of last Saturday gives its usual weekly list, from which we extract those for the Irish cities and towns, during May, and at the several dates, as follow: DUBLIN—18th, Locke and Woods, 238 pes. timber, 11,483 deals. BELFAST—17th, G. Heyn and Sons, 1,357 pes. hewn fir. 18th, James Agnew and Co., 21,954 deals and deal ends. Thos. Dixon and Sons, 435 pes. sawn fir, 2,209 pes. hewn oak. 19th, J. C. Pinkerton, 1,890 bbls. hoops, 580 pes. hewn fir. CORK—19th, Steamship Co., 500 bbls. hoops. 21st, Jas. O'Connor and Sons, 21,622 pes. sawn fir. GALWAY—18th, B. Hynes, 18,109 deals, deal ends, and battens. TRALEE—16th, J. Donovan and Sons, 861 pes. sawn fir, 192 fir deals. Driscoll and Sons, 504 lds. fir deals and ends.

AN AMERICAN ELECTRIC RAILWAY.—The proposition of the Thompson-Houston Electric Company, of Boston, to run trains through the Belt Railroad Company tunnel in Baltimore by electric motors, thus avoiding smoke and gas, has been accepted by the latter company, and the details of the necessary contracts are now being made. The electric company agrees to build the power house, equip it with the necessary machinery generating electricity and to supply the motor for hauling trains at its own expense. It will allow the railroad company ample time to thoroughly test the plant. If satisfactory then the motor is to be adopted, but if found not to be practicable, the electric company will remove all its appliances without cost to the railroad company.

DURABILITY OF WOOD.—The problem has puzzled many why two pieces of wood, saved from the same section of a tree, should possess very varied characteristics when used in different positions. For example a gate post will be found to decay much faster if the butt end of the tree is uppermost than would be the case if the top was placed in this position. The reason is that the moisture of the atmosphere will permeate the pores of the wood much more rapidly the way the tree grew than it would in the opposite direction. Microscopical examination proves that the pores invite the ascent of moisture, while they repel its descent. Take the familiar case of a wooden bucket. Many may have noticed that some of the staves appear to be entirely saturated, while others are apparently quite dry. This arises from the same cause; the dry staves are in the position in which the tree grew, while the saturated ones are reversed.—*Timber Trades Journal*.

SHAKESPEARE'S BIRTHPLACE.—The annual meeting of the Trustees of Shakespeare's Birthplace was held at Stratford-on-Avon, Wednesday afternoon. The action of the executive committee in purchasing Anne Hathaway's Cottage for £3,000 was confirmed by the trustees. The Rev. G. Arbutnot voted against the motion on the ground that the purchase was effected hurriedly, and without ascertaining the opinion of the general body of the trustees, and that the price was excessive. The Mayor said the committee were allowed only three days to decide, and there was a danger of the cottage being bought by an enterprising American and taken over to the World's Fair at Chicago. The committee were further empowered to purchase the old furniture in Anne Hathaway's Cottage. The committee reported that over 20,000 persons had paid for admission to Shakespeare's Birthplace during the year, representing twenty-eight different nationalities. Nearly 6,000 came from the United States. A number of valuable gifts had been received during the year for the library and museum. Sir Theodore Martin, a trustee, forwarded £50 towards the special expenses connected with the purchase of the Hathaway Cottage. It was decided to increase the reserve fund, so as to be in a position to purchase other objects of Shakespearean interest when occasion required.

WOOD PAVEMENTS.—The chairman of the Public Works Committee of the St. Pancras District (Mr. Jos. Thornley) asks the Works department "in consequence of the unsatisfactory experiences we have had with yellow deal," to reconsider the decision to pave Tottenham-court-road with that material, and to use an Australian hard wood. As a middle course, pitch-pine is to be used. A quotation from a report on wood pavements in Australia, however, shows that even with the Australian hard wood, it is strongly recommended that the pavement of streets in Sydney with wood blocks be entirely discontinued. The principal reason is that "the analysis shows that the blocks in actual use here have absorbed an amount of organic filth which is large in comparison with the short time during which they have been laid, and which is distributed throughout the blocks in such a manner as shows that their complete impregna-

tion is only a matter of time." Again the report continues:—"So far as the careful researches of your board go, the porous, absorbent, and destructible nature of wood must, in their opinion, be declared to be irremediable by any process at present known; nor, were any such process discovered, would it be effectual unless it were supplemented by another which should prevent fraying of the fibre." This opinion from Sydney, where they can command a far superior style of wood for pavement than what we can economically use here, is certainly significant. Our own opinion has been for some time back that wood pavement will have to be abandoned, before long, on sanitary grounds; but what is to satisfactorily take its place, we do not yet see. Asphalt is sanitary and quiet, but the cruelty to horses which it involves is a consideration which we have no right to pass over.—*Builder*.

NEW CHURCH FOR GLASGOW.—The foundation-stone of the new St. Cuthbert's Parish Church, Glasgow, was laid on the 18th ult. The church will be built on the site of the old one, at the west end of Princess-street Gardens, and near the junction of Princess-street with Lothian-road. Mr. Hippolyte J. Blanc, A.R.S.A., is the architect for the new structure, which is to accommodate 2,000 worshippers, and cost some £19,000.

TO CORRESPONDENTS.

ST. MICHAEL'S CHURCH AND PARISH.—The continuation of our papers on St. Michael's will be given in our next number.

HOUSE DECORATION AND PAINTING.—Proprietors of house property should write to Carson's, Bachelors-walk, Dublin, for pattern lists of paints, varnishes, and other materials for decorating. Pure, genuine materials—the best and most durable in the world,—all prepared so that an unskilled person can apply them. One hundred shades of colours.

Illustration.

CHURCH OF OUR LADY, CASTLEBAR.

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THE POLITICS OF ART.



NASMUCH as Art is peaceful, and is nourished in the bosom of happy prosperity—a symbol of dignified and thoughtful repose—it seems graceful to turn to it in these days of political commotions and troubles, to find consolation in its serenity, and instruction in its deliberate eloquence.

We build galleries, and bring together in them the choicest fruits of that Tree of Life, the human soul. We gather exotics from the works of old masters and new, of ancient Italian schools and modern French and Flemish. We cull choice hits of poetic truth from domestic studios, and hang them up to ripen in the public heart, and fructify there in gentler manners, purer habits of

life, and more refined and elevated ideas of our relations with the handiwork of the First Artist. It is good for us to get away from the bustle of the streets and the noisy dangerous rumours of the world, and enter these quiet academies of art. Their stillness is the fountain of intellectual peace, the source of the profoundest harmonies.

This is the political economy of Art. Its "service is perfect freedom," under the protection of the laws of divine unity; and every man is instinctively open to impulses from it of good or evil tendencies, according as the artistic expression in picture, statue or building is good or bad. It is impossible to estimate the amount of moral influence such things have over our conduct; but that it is very appreciable is evident from the fact that every excellent human work, whatever that work may be, is excellent both in a subjective and an objective sense.

"It blesteth him that gives and him that takes,
"Tis mightiest in the mighty."

It is quite unreasonable to suppose that the Creator has implanted for nothing in the human soul the almost divine power of conceiving a beautiful idea through any of the avenues of intelligence, and in any way expressing it, whether by words or things or acts. Every man is an instructor for his fellow-men in proportion to his capacity for such conception and such expression. Thus the laws of moral reciprocity are constantly at work. And if we hold a man to be a benefactor to his kind who originates and carries into execution any work which has for its object the improvement of his fellows, we should regard with no less respect those the depths of whose humanity are disturbed by an equal "joy of elevated thoughts," even though the

outward expressions of these thoughts cannot be measured in their excellence by any definite and practical attainments of enlarged political liberties and improved mechanical science. The conception of Shakspeare or Michael Angelo is at least as godlike as that of Watt or Washington, and the resulting poetry or Art on the one hand is of as much value to the wellbeing of mankind as the resulting steam-engine or political liberty is on the other. If the springs of action lie equally deep in the powers of the human mind, the results whether considered practical or theoretical, are equally blessed.

Therefore Art is as necessary to the solving of the great problem of human destiny as politics. It is, in fact, itself a great, though usually unrecognised, political agent, acting, indeed, not directly to diminish our taxes, or extend our franchise, to improve and defend our liberties; but going behind and beyond these things, civilizing, expanding, refining the human mind, to the better appreciation of true freedom, and to the more profound insight into its nature and necessities.

But it is not for every one to retire to the stillness and sanctity of galleries of Art to learn this great lesson of civilisation. It is not every one who can do this, and many would not if they could. Such persons, however, do not avoid the subtle influences of Art; rather are they more sensitive to them, because these influences come unawares in their daily walks, intruding into vacant spaces of thought, ever working unseen and unsuspected. If Art possesses any element of political or moral power, architecture is certainly its most potent and democratic agent in these respects. A man enters a gallery of Art forewarned and forearmed. He involuntarily encases himself in an armour of criticism, and thus too often becomes obstinately invulnerable to the fine attacks and stratagems of the artist. Every educated man is expected to be a good critic of a picture, and he feels the necessity of hearing out his education, and indulging in more or less of the slang of the studio, signifying nothing. But the learned and the unlearned walk the same pavement in our streets. The lawyer, the merchant, the clerk, and the mechanic proceed to their business and return to their homes in the evening, quite unsuspecting that they have been unguardedly sowing in their breasts the seeds of good or evil with every glance at buildings on the right or left.

The poet Keats said:

"A thing of beauty is a joy for ever,"

meaning that its very beauty renders it immortal in the work of felicitating and comforting the human heart. A good poem never dies. It passes from lip to lip, from heart to heart, on a mission of peculiar grace, appealing to each man's individuality, and opening to him a new vision of delight, or surprising him with the apotheosis and glory of an old and familiar thought. Its beauty is its life. So with a statue or picture. If indifferent in sentiment or execution, it encumbers the earth—is neglected and forgotten. If inspired with a beautiful idea, it is never idle. There is some part of every human being to which it may appeal with peculiar emphasis. It forms part of the joy of his existence. It becomes incorporated with his being, and if it is ever forgotten in its actuality, it is ever present in its essence, ever re-occurring in that indefinite feeling of content and gratitude which makes every in-

tellectual being competent to appreciate and more or less desirous of attaining to some future state of utter beatitude. A work of Art, is, in fact, the love of God, which, in some especial form, has entered into the heart of man, and has been humanized and materially expressed by Him, so that we, His fellow-creatures by human sympathy, may be made to understand some part of divine Providence which otherwise we would have suffered to pass unnoticed and without its peculiar blessing. It seems to us that this does not admit of a doubt. And the converse of the proposition is true likewise. A work of error and bad taste is in some degree an evil for ever. It constantly corrupts, as a "thing of beauty" constantly elevates.

Art is a republic, as literature is. Its basis is Integrity, and its strength is Union. If the laws of its beautiful unity are broken, and it is divided against itself, it falls. From this republic of Art there may be secession as disastrous as that from a republic of states. No panic ensues, indeed; but the stocks of public taste depreciate, the avenues of civilisation are encumbered with rubbish, healthy credit, which nourishes true merit, is lost, and at the base of public morality, so far down that we do not suspect it, a subtle influence is set to work undermining and weakening, and when the fall takes place we wonder what caused it.

True architecture is not merely the strict observance of certain fixed academical rules of proportion, but it is founded upon laws of much larger application—those of Truth and Beauty. An architectural offence therefore is not, as is often supposed, a mere rebellion against certain conventional rules only appreciable by architects. Every man in viewing a work of architecture, if he brought to bear on it the judgment of common-sense (which, strangely enough, he rarely does), would arrive at a just valuation of its merits or demerits.

NOTES OF WORKS.

Messrs. Edmundson and Co., Limited, of Capel-street, have been declared contractors for the wiring of the Civic Buildings for electric lighting purposes.

The foundation stone of a new chapel in connection with St. Joseph's Asylum for Male Blind, was laid on Sunday last. Mr. W. H. Byrne, of this city, is the architect.

The foundation stone of a new reservoir in connection with the Belfast waterworks, at Stoneyford, was laid on the 9th inst. The carrying power of the reservoir will be 120,000,000 gallons of water—a supply equal to the wants of the city for at least forty days. The total cost is estimated at £12,000.

St. Patrick's Church, Derrynoose, Co. Armagh, has lately been re-opened after some much-needed improvements. The old high-backed pews have been replaced by seats of modern design with carved ends. The sanctuary has been paved with encaustic tiles; and a new pulpit, prayer desk, font, &c., have been provided.

On Saturday last the new Franciscan Church of the Immaculate Conception, Ennis, was consecrated by the Most Rev. the Bishop of Killaloe (Dr. McRedmond). When the work was contemplated some six years ago, the idea was merely to add a wing to the old building; but by degrees the plans were altered and enlarged to the proportions of the present edifice, at a cost of about £11,000. The style is Gothic of the fourteenth century. Mr. William Carroll, C.E., was the architect, and the works have been carried out by Mr. D. Shanks, both of Ennis.

IRISH MOUNDS AND CAIRNS.

THE misgauns or cairns of Ireland are very numerous. In several cases, these are a historic class of monuments; but, generally considered, the periods for their erection have been so remote, that neither our written records nor local traditions have preserved any accounts of their origin or purpose. That they had been designed as sepulchral memorials, and serving as tumuli for distinguished persons or families, is a theory most usually admitted. Indeed, in several cases where exploration or accident has brought to light those curious chambers or passages found within them, there were almost certain indications that these had been used for purposes of interment. So far as we can judge from the remains of existing monuments appertaining to this class, they were generally round in form, and they tapered upwards gradually in the shape of a sloping and an obtuse cone. Nor can we discover that lime-mortar had been employed in their construction, while many of the stones are of enormous size, and only very rudely dressed for the purpose of building. Except where the chambers or passages have been discovered, and where some precautions have been taken to form them, but with slight pretensions to masonic skill, the stones seem to have been roughly piled one upon the other to bring them to a required elevation. In the Eastern countries, as in ancient Egypt, and also in Mexico, pyramidal structures, but generally of quadrangular shape, had been erected in most remote times, and these vast piles of stone seem to have been chiefly designed as receptacles for the dead.

The Scottish antiquaries have thrown much light on similar remains. Thus chambers have been discovered likewise at Dunsinane Hill, in Scotland,¹ and these have been described with singular minuteness of detail. Also, tumuli of an ancient character are to be seen in Caithness.² The reader is referred to another account relating to the excavation of a tumulus.³ Throughout England and Wales, also, numberless corresponding monuments have been examined and described by capable antiquaries.

To the Tuatba De Danaans are ascribed the erection of several great Irish sepulchral mounds. Many of these yet remain in our island, while it seems likely enough, that many have wholly disappeared, while their loose stones have been removed for building houses, or for making roads and fences.

The ancient sepulchral monuments of Ireland were of very curious construction. Many were erected on a scale of extraordinary dimensions. Of the latter class and one of the most ancient known is the remarkable pyramidal mound of New Grange, situated some few miles above Drogheda, and on the banks of the River Boyne.⁴ We can only form an idea that this was originally a rude and an uncouth mass of stone, and probably reaching to a date still more remote than that of the Egyptian Pyramids and other similar structures found in Europe, Asia, and America, which are undoubtedly specimens of an improved art, and the work of a semi-civilised people.

Among the most ancient monuments of this class in Ireland, we may place those still to be seen on or near the banks of the River Boyne. That especially of New Grange, about four miles west of Drogheda, is not recognisable at a distance as more than a gently sloping hill, about 70 ft. in height over the adjoining plain. It is partially covered with wood on top, but underneath a superficial covering of earth, a vast pile of stones, artificially placed there, may be found. The base is circular in formation, and at intervals surrounding it are to be seen enormous stones, of which eight or ten appear above ground and in an isolated position.⁵ According to tradition, the summit was formerly surmounted by an upright obelisk or pillar-stone of great size and height. An opening is to be seen near the base,⁶ and this leads through a passage wide enough for a man to enter, yet in a stooping posture. This gallery runs in a direction nearly north and south to a distance of about 50 ft., when it terminates in a large chamber, apparently on a level with the ground, and about central in the mound. Great blocks of upright stones line both sides of the passage, and over these had been placed lintels to support the immense superincumbent mass of stone piled on up to the summit. The adjoining cairn at Dowth is also very remarkable.

On the very summit of Knocknarea,⁷ which rises near the town and bay of Sligo, stands a remarkable *misgaun* or cairn, which was of much greater size in 1779.⁸ Within it, tombs constructed for human remains were found, with several rude ornaments and implements of stone belonging to the pre-historic age.⁹ The hill itself is a prominent object, and as contrasted with the surrounding mountains it is isolated, presenting a smooth and level contour to the summit, except on one side which is rather steep.¹⁰ The cairn on the top has been called Misgaun Meave, most probably from the celebrated Queen of Connaught, known by the latter name. On the strand of Beltra, off the coast of Sligo, there is a cairn, under which it has been stated Eocby, King of the Firbolgs, lies buried, having been slain on the sea-shore near it.

Very remarkable are the mounds or cairns at Knockany and Knockgrainin, in the County of Limerick. Again, on the Pap Mountains, in the County of Kerry, there are singular megalithic piles, about which only popular legends of a worthless character survive. About their designers and craftsmen nothing historic or traditional is now known. Knockmany, near Clogher, is another curious specimen, but left in a torn state by some modern Vandals, who undertook to explore the recesses, but who had

5 It is remarkable, that about some of the Egyptian pyramids encircling stone walls had been placed, as in the case of the great pyramid of Gize, in the neighbourhood of the ancient Memphis.

6 This remained for a long period unknown, until discovered about the close of the seventeenth century, when it was brought to light by some labouring men who had been employed to remove the stones of the cairn, to repair a neighbouring road.

7 A drawing and description of Knock-na-rea, by Daniel C. Grose, Esq., are to be seen in the "Irish Penny Magazine," vol. i., No. 48, pp. 377, 378.

8 When measured by Right Hon. William Burton.

9 See a description of it in Major W. G. Wood-Martin's "History of Sligo, County and Town," book i., chap. ii., pp. 18, 19.

10 Wherefore, it is stated, that as the ancient name of the Knocknarea district was *Ko-redheach*, or its equivalent *Ros na Reidh*, meaning the Promontory of the Smooth or Level Mountain-Top; it seems to follow that *Knocknarea*, otherwise *Knoc na Reidh*, means the Hill of the Smooth or Level Top, which is said to describe very accurately the character of that hill. A description of the place and a picture of the hill may be found in Very Rev. Archdeacon T. O'Rourke's "History of Sligo; Town and County," vol. i., chap. iii., pp. 51 to 56.

not the taste or art to restore that ancient monument.

In these islands it is thought that many ancient monuments of the Druids still remain.¹¹ Among these the stone circles and cromlechs have been especially classed.

For a long time, the cromlechs were supposed to have been altars used by the Druids for sacrifice. Numerous recent discoveries and closer investigation have established the conclusion that they were places for sepulture. Drawings of many have been made, and, through the process of engraving, they are represented in many published works.¹²

It has been denied, however, that the megalithic monuments of France, such as the cromlechs, dolmens, menhirs, and penluns, had connection with the Druids or their rites, as those prehistoric vestiges belong to grosser and more unknown ages.¹³

MESSRS. FURLONG AND SONS' NEW MILLS, VICTORIA QUAY, CORK.

OUR illustration is a perspective view of above mills, which have been for some months past in full working order. The works have been carried out, from plans by Mr. James F. M'Mullen, of 30 South Mall, Cork, by Messrs. Collen Brothers, Dublin and Portadown.

A full description of these mills has already appeared in this journal.

THE RATHMINES WATER WORKS AND THE MILL-OWNERS.

WE have from time to time given in these columns reports of the doings in connection with the water supply for Rathmines Township, and the lengthy litigation which has resulted through the opposition of the mill-owners and others whose interests were affected by the construction of the works, and which was finally decided by the House of Lords. At the meeting of the Commissioners on the 1st inst. the subject was again before the board, when the Chairman (Mr. Edward Fottrell, J.P.), made a statement with respect to the report submitted by the solicitors, and a discussion took place as to the present position of the board in the matter.

The Chairman said they were all aware of the severe and lengthy litigation which they had gone through with regard to their water-works. He would not say anything against any person; but he recognised the fact that the law was against them, and, consequently, they should obey the law, and endeavour to take the best steps to do so. He read the report of Messrs. D. and T. Fitzgerald, solicitors to the board, in reference to the judgment of the Lords. It stated that the Rathmines and Rathgar Water Act of 1880 authorised the commissioners to construct certain works, fifteen in number, for the purpose of affording a supply of water to the township and a certain stipulated supply to the "upper mill-owners." The works were completed about the end of 1887, and the delivery of the supply of water to which the upper mill-owners were entitled was commenced in March, 1888. The mill-owners complained that the works constructed were not authorised by the Act of 1880, and they

11 See Keyser's "Antiquitates Selectæ Septentrionales et Celticæ," in which many curious plates of these are to be seen, especially two of Stonehenge. This work was published in 1720, in 8vo.

12 See Frederick William Wakeman's "Archæologia Hibernica," or a Hand Book of Irish Antiquities, Pagan and Christian, part i., chap. i., pp. 7 to 16. Dublin, 1848, 8vo.

13 See Ernest Desjardins' "Geographie Historique et Administrative de la Gaule Romaine," Tome ii., chap. iv., sect. 6, pp. 515, 516.

1 See "Proceedings of the Society of Antiquaries of Scotland," vol. II., pp. 93 to 99.

2 *Ibid.*, pp. 372 to 376.

3 *Ibid.*, pp. 431, 432.

4 For a very interesting account of this wonderful monument, with accompanying illustrations, the reader is referred to Sir William Robert Wilde's "Beauties of the Boyne and of its Tributary the Blackwater."

instituted a suit in the Chancery Division, Dublin, before the Master of the Rolls, praying for an injunction to restrain the commissioners from continuing the works in the state they were in. That suit embraced nearly all the works constructed, but during the hearing of the suit the objections of the mill-owners became practically limited to two works—namely, an impounding reservoir, work 9 (the lower reservoir), and work 10, a watercourse carrying down the peaty water, and which was to be continued past both reservoirs, and terminating at the junction of the River Dodder. In July, 1889, the Master of the Rolls decided in favour of the mill-owners, and gave an injunction restraining the commissioners from continuing the reservoir No. 9, and the watercourse No. 10, in the condition which they were in. The contention of the mill-owners was that the reservoir was not in the position described in the act, and was not capable of giving to them the supply of water to which they were entitled, and also that the water-course No. 10 was to be an open one from the beginning to the end, whereas the commissioners had carried it by the line of 27-inch pipes under the bed of reservoir No. 9. The commissioners appealed to the Court of Appeal in Ireland, and the case came in 1890 before the Lord Chancellor, Chief Baron Polles, Lord Justice Fitzgibbon, and Lord Justice Barry, and the decision of the Master of the Rolls was reversed. In February of the present year the case was brought before the House of Lords, and was heard by Lord Halsbury, Lord Chancellor of England; Lord Watson, Lord McNaughten, Lord Morris, and Lord Hannen, and the decision was against the commissioners. The Lord Chancellor, Lord Watson, and Lord McNaughten held that the works were not the works authorised by the act. Lord Morris and Lord Hannen held that work No. 9 was as authorised by the act, but work No. 10 was not. The majority carried it, and the commissioners were defeated by a majority of one. The case was therefore tried by ten judges, six of whom held in favour of the commissioners and four in favour of the mill-owners, but nevertheless, the latter succeeded, and the commissioners must regard the decision of the House of Lords as final and binding. Lord McNaughten, in delivering judgment said:—"In the result, therefore, I am of opinion that the appeal must be allowed and the order of the Master of the Rolls restored, omitting the earlier part of the injunction, which in its effect was mandatory, and could only be complied with by removing and reconstructing the works which we declare to be authorised. The respondents, I think must pay the costs of the appeal and all the costs in the court below. Of course it will be proper to suspend the injunction for a reasonable time, so as to give the commissioners an opportunity of coming to terms with the mill-owners, or applying to Parliament if they should be so advised. I would suggest, therefore, that the injunction should not come into operation till the 1st August, 1893, and that the Commissioners should be at liberty to apply to the court or judge in case further time is required." Under these circumstances the solicitors advised the commissioners to consult some eminent independent water engineer, and get his advice as to works 9 and 10, to see what could be done with a view of making them more in accordance with the act. The mill-owners admitted that they sustained no actual damage, and the question turned very much on whether Reservoir No. 9 was sufficient to enable the commissioners to give the supply of water to the mill-owners provided by the act. He (the chairman) regretted the decision was against them. However, they saw the number of judges who went one way, and the number who were of an opposite opinion. The law should take its course, and the costs should be paid. They had, until August, 1893, to do such acts as would be likely to protect their interests. He strongly recom-

mended the adoption of such a course as that suggested by their solicitors, viz., to employ a water engineer of standing, who would advise as to how the works could be improved, so as to comply with the judgment of the House of Lords. They had in contemplation some time ago to duplicate their pipes from the other reservoir down to Ballyboden, and his impression was that they should not delay the duplication of these works. If they came to a resolution to consult an engineer, his strong impression was, if the engineer said it would be prudent to duplicate the pipes and bring them down to the land of Ballyboden, they ought to do so. After the judgment of the Lords, they should not go to work without due consideration. He would move that the solicitors' report be adopted, and that an eminent water engineer be consulted.

Dr. Ward seconded the motion. He said that when they obtained the act, they made a contract with one of the first water engineers of Great Britain, and that engineer agreed to carry out the works in accordance with the act of Parliament. He (Dr. Ward) was always under the impression that he had done so, and he never knew such was not the case until that action was commenced. It was very hard lines that they should be blamed as they were by some of the public under the circumstances.

Surgeon-General Gunn thought that the engineer, Mr. Hassard, having gone against the act, he should be held responsible. The expenses would be a mere trifle, and would affect the ratepayers in a very small degree compared with the reports which had gone abroad. Threepence in the pound for a year or a year and a-half would cover the entire sum. He thought that Mr. Hassard should be called upon to refund the amount they would have to pay.

Mr. Hewson said Mr. Hassard should answer to the board for misconstruction. He understood that long ago the matter might have been settled with the mill-owners, as they had no cause of complaint of want of water. Could not the matter be settled by some compromise? and as the works were admitted to be able to carry out their functions, could no way be found by which the injunction could be withdrawn? He would suggest that they should try whether something of the kind could not be accomplished.

The Chairman said that nothing of the kind could be done by private negotiation. They could not do anything but go through the proper way legitimately.

The board ultimately decided to adopt the report of the solicitors, and to direct the waterworks committee to take into consideration the question of appointing an independent engineer to advise the commissioners as to their course.

On Monday last the Commissioners met, for the purpose of taking into consideration the appointment of an engineer to examine the waterworks constructed by the Commissioners at Glenismole, and to advise the board as to their best course, in view of the recent decision of the English Court of Appeal that the works were not carried out in accordance with the Act of Parliament which authorised their construction.

Mr. EDWARD FOTTELL, J.P., in the chair.

The Chairman said that meeting was specially summoned with regard to the position they stood in at present after the decision given by the House of Lords. It was thought on all hands that they should ascertain from the mill-owners what exactly they required to have done. They were all anxious to act legally, and the members of the board believed that they had been acting perfectly legally. However, the House of Lords had decided against them, and it was their duty to submit to that decision.

Captain Boyd moved—"That the services of an eminent engineer be engaged, if found necessary after conference with the mill-owners, to report fully on the present state

of the waterworks, and to facilitate the board, having regard to the judgment against us by the House of Lords."

Surgeon-General Gunn, J.P., seconded the motion, which was unanimously adopted.

KINGSTOWN COMMISSIONERS.

THE adjourned monthly meeting of the Commissioners of the Kingstown Township was held on Monday in the Town Hall,

Mr. ISAAC MOLLOY, M.A., presiding.

The minutes of last meeting were confirmed.

The reports of the several committees and officers were laid on the table, and read a first time.

No. 1 Committee (Sanitary) submitted a scheme, prepared by their direction, by the township surveyor, and recommended that an experienced engineer should be engaged to confer with Mr. Berry, and report on the advisability of the proposed scheme. The cost of these works are estimated—(1) For the delivery of all the sewage of the township at the West Pier, by Shone's hydro-pneumatic system, including purification of the effluent by filtration through polarite, £20,800. (2) For the same works, the effluent to be discharged along the surface of the West Pier into deep water, 500 ft. away from the beach, £16,800. (3) For the same works as these last mentioned, except that the Glashule drainage is to be carried into a separate outfall at Bullock, £16,300.

The following is the report of the deputation appointed to wait on the Board of Works in reference to the berthage at the Carlisle Pier of the Isle of Man steamers:—

The deputation appointed by your board on the 16th ultimo have to state that your chairman, with Messrs. Brown and Marlowe and the Town Clerk, waited on the Board of Works on Tuesday, the 24th ultimo, and were courteously received by General Sankey and Mr. O'Shaughnessy, on behalf of the board. The deputation laid before the board the points mentioned in your resolution, and urged that as the Carlisle Pier was unoccupied for the greater part of each day, arrangements might be made to permit the Isle of Man steamers to come alongside at fixed periods, say from 9 a.m. to 4 p.m., on two or three days in each week during the summer. General Sankey mentioned several objections to this proposal; it required very great skill to handle steamers coming alongside the pier, and the slightest accident or mistake would cause serious damage, and possibly retard the postal arrangements. In the event of fog or accident, it might happen that the passenger steamer might not be able to leave the berth in time to allow of the punctual discharge of the mails, and, however, the pier was frequently required for berthage for the extra boats which the contracting company found it necessary to have lying by at Kingstown. It was further stated that the postal service might shortly be so developed that the Carlisle Pier would be continuously required for the purposes of the department. General Sankey also intimated that, owing to the answer of the Postmaster-General to the communication of the board on this matter, he would hesitate to again address him on the subject. At the same time, he assured the deputation that, with the consent of the Postmaster-General and the Dublin Steam Packet Company, the board would be willing to grant facilities to the Isle of Man steamers to come alongside the Carlisle Pier. The deputation then thought it advisable to have a communication addressed to the Isle of Man Steam Packet Company, with the object of inducing them to make use of the Victoria Wharf for the purpose of their tourist traffic to this country.

A DRINKING FOUNTAIN FOR DRUMCONDRA.—At the fortnightly meeting on 7th inst., of the Drumcondra Township Commissioners, Mr. P. F. Leonard, C.E., township engineer, reported that he had received a letter from Miss Glenny, of 58 Morehampton-road, stating she had heard that a drinking fountain for horses, &c., was required at Drumcondra, and that she had a fund at her disposal out of which she would contribute to the erection of one, on condition that the commissioners would supply it with water, and keep it in repair. The commissioners agreed to the offer, and passed a vote of thanks to Miss Glenny. On the suggestion of Mr. Leonard, a small committee was appointed to select a site for the fountain.

RE-BUILDING OF THE COURT-HOUSE, CORK.

A MEETING of the Joint Committee was held on Saturday at the Municipal Buildings, chiefly for the purpose of considering the draft contract for the re-building of the County and City Court-house and offices. The Mayor presided, and there were present—The City High Sheriff (Alderman Scott, J.P.), Sir George Colthurst, Bart., D.L.; Alderman Dale, Councillor Crean, Mr. R. Meade, D.L.; R. E. Longfield, D.L.; J. Pike, D.L.; T.C.; J. McCarthy O'Leary, D.L.; and Joseph B. Johnson, Esqrs.; also the Town Clerk, Mr. Flynn, solicitor (for Mr. Hodder), Mr. W. H. Hill, architect; and the secretary. In accordance with a suggestion from the Municipal Council, it was decided to publish the names of all the parties who tendered for the works, with the amounts of their tenders respectively. They are as follow, placed in the order in which the tenders were originally listed:—

| Name | Gross Tender. | Less Old Materials. | Nett Amount. |
|------------------|---------------|---------------------|--------------|
| H. & J. Martin | 28578 0 0 | 578 0 0 | 28000 0 0 |
| Collen, Brothers | 29638 0 0 | 638 0 0 | 29000 0 0 |
| Dixon & Campbell | 30960 0 0 | 1000 0 0 | 29960 0 0 |
| P. W. Johnson | 27897 0 0 | 400 0 0 | 27497 0 0 |
| J. Delany & Co. | 29390 0 0 | 250 0 0 | 29140 0 0 |
| John Sisk | 27540 12 4 | 1500 0 0 | 26040 12 4 |
| Samuel Hill | 26455 0 0 | 1500 0 0 | 24955 0 0 |
| E. & P. O'Flynn | 27355 0 0 | 1360 0 0 | 25995 0 0 |

The draft contract of Mr. Samuel Hill with the Corporation and the Commissioners was then gone through and approved by the Joint Committee. The period allowed for the completion of the works is twenty-one months, with a penalty of £5 per week for every week that period may be exceeded. The contractor is to give security in the sum of £2,000, and will be bound to insure the building for a maximum of £25,000, commencing at £1,000 as soon as the works are fairly begun, and increasing from time to time by such sums as the architect may deem sufficient. Mr. Michael Murray was appointed clerk of works, at a salary of three guineas per week, with the approval of the committee.

ST. GEORGE'S PARISH.

The Boundary of St. George's Parish, as settled by 33rd George the Third (1793):

"Whereas, by the extension of buildings adjoining the City of Dublin north and north-east of Lying-in Hospital and in the neighbourhood thereof, in the district hereinafter described, several new streets have been made and built, and others are now making and building, and the inhabitants of said district have become very numerous, and the said district not being within the county of the city of Dublin, or within the operation of any of the laws now in being, regulating any parish in the same," &c. &c. . . , the following is fixed as the

PARISH BOUNDARY.

"From a public fountain opposite north end of Sackville street, in the city of Dublin, and from thence along that part of Great Britain street leading to Summer hill, and along Summer hill and Ballybough lane as far as the centre of rivulet or stream of water running under Ballybough bridge, and from thence along the said rivulet, and through Drumcondra bridge as far as Glasnevin bridge, and from thence along the road leading to Dublin from Glasnevin, as far as Bradogue rivulet, and along the said rivulet eastward to a well near the angle of the boundary of the city of Dublin, and from thence in a straight line along the boundary of said city, towards the north-east to that part of the lane at rere of the ground or plot laid out for the houses to be built in and upon a certain piece of ground called the Royal Circus, near the end of an intended street called, or to be called Margaret place, and from thence in a south-east direction across Blessington street, to a lane called White's-lane, and along said lane to the centre of Dorset street, and from thence

along Dorset street to a point opposite the end of Frederick-street east, near Dorset street, and down Frederick street to Cavendish row, and along Cavendish row to the aforesaid public fountain opposite to the end of Sackville street, all situate in the county of Dublin, and all squares, streets, lanes, courts, and other places and grounds within the said lines of boundary herein expressed, be, and the same are hereby constituted and made a rectory or parish."

ST. GEORGE'S CHURCH.

The Bells. (See IRISH BUILDER for 15th ult.)

The following resolutions were passed at a vestry held in St. George's Church, fixing the days on certain state occasions, in addition to the four days named by the donor, Mr. Francis Johnston, on which the bells were to be rung. There is no date to the copy which is before us, and which was found amongst the effects of Francis Johnston's widow. We understand the order for the ringing of the bells was never put into practice:—

"We the Undersigned,

The Churchwardens of ST. GEORGE'S PARISH, Taking into consideration the munificent and disinterested kindness manifested by the late

FRANCIS JOHNSTON, ESQ.,

Of Eccles-street, the Architect of the Church,

In presenting to this Parish, in which he so long resided,

A PEEL OF BELLS,

(which cost him Fifteen Hundred Guineas), expressing a wish that they should be rung on the three following days:—

The 1st of December, the 21st of December, and 23rd of September,

have in addition thereto, (with the approbation of the Rector and Curates), Resolved, that they be rung on the days and times hereafter specified, that is to say, on

New Year's Eve, and Christmas Eve, at midnight, for the space of 15 minutes, and also on

January 1st, immediately after Divine Service. June 26th, King's Accession.

March 17th, St. Patrick's Day. August 1st, Accession of the House of Hanover.

Easter Monday. August 13th, Queen's Birth Day.

Easter Tuesday. August 21st, King's Birth Day.

April 23rd, St. George's Day. September 8th, Coronation.

Whit Monday. December 25th, immediately after Divine Service.

Whit Tuesday. June 18th, Battle of Waterloo.

May 29th, King Charles's Restoration. On the entrance into Dublin of a new Viceroy, and on any other day of general public rejoicing, as the Churchwardens may deem expedient to direct.

As the ringing of the Bells might be irksome to nervous persons, or those confined by illness, we have determined that they shall be rung only from the hour of Two until THREE in the AFTERNOON, to which we submit no reasonable objection can be offered; and we respectfully suggest the adoption of these Regulations by our successors in office, the more so, as the anniversary of days calculated to excite party feeling, is omitted in accordance with the desire of the lauded donor of this liberal gift, to whose memory and worth this tribute of respect is justly due.

William Henry Carroll,

9 Mountjoy-square, N.

William Carroll,

11 Eccles-street

Church Wardens."

CORRESPONDENCE.

ST. GEORGE'S CHURCH—ITS FIRST RECTOR.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—The following extract is taken from "Domestic Intelligence," which appeared in *Anthologia Hibernica* for August, 1793, and, in connection with your interesting and valuable papers on the above parish, may be worth transferring to your columns:—

"The hon. and rev. Mr. Agar, younger brother of Lord Viscount Clifden, who has

been recently appointed rector of the new parish of St. George, on the north side of the river, created by an act of the last session of parliament, has lately read his assent and consent in St. Thomas's Church. This was necessarily done there, as no parish church is yet erected in this lately imparished district; and it is very uncertain when one will be built there, it depending on the voluntary contributions of the inhabitants. The valuation, however, of the several houses in its circuit, for the ascertainment of the minister's money, has been made; a commission having been issued from his excellency the lord lieutenant and council for that purpose."—*Anth. Hib.*, vol. 2, p. 238.—Yours, A BOOK-WORM.

10th June, 1892.

[*St. Thomas', St. Mary's, and St. Michan's* are the churches named in 33rd Geo. III. (1793), in one of which this ceremony might be gone through.—ED. I. B.]

LAW.

TULLAMORE QUARTER SESSIONS.

(Before His Honor, Judge Fitzgerald.)

TYRRELL v. BROWNE AND PEPPER.—This was an action for the recovery of a sum of £31 6s. (being balance at foot of a contract) alleged to be due by defendants to plaintiff, for work done and materials supplied in connection with the Church at Clara.

Mr. Fetherston-Haugh appeared for plaintiff, and Mr. Richards for defendants.

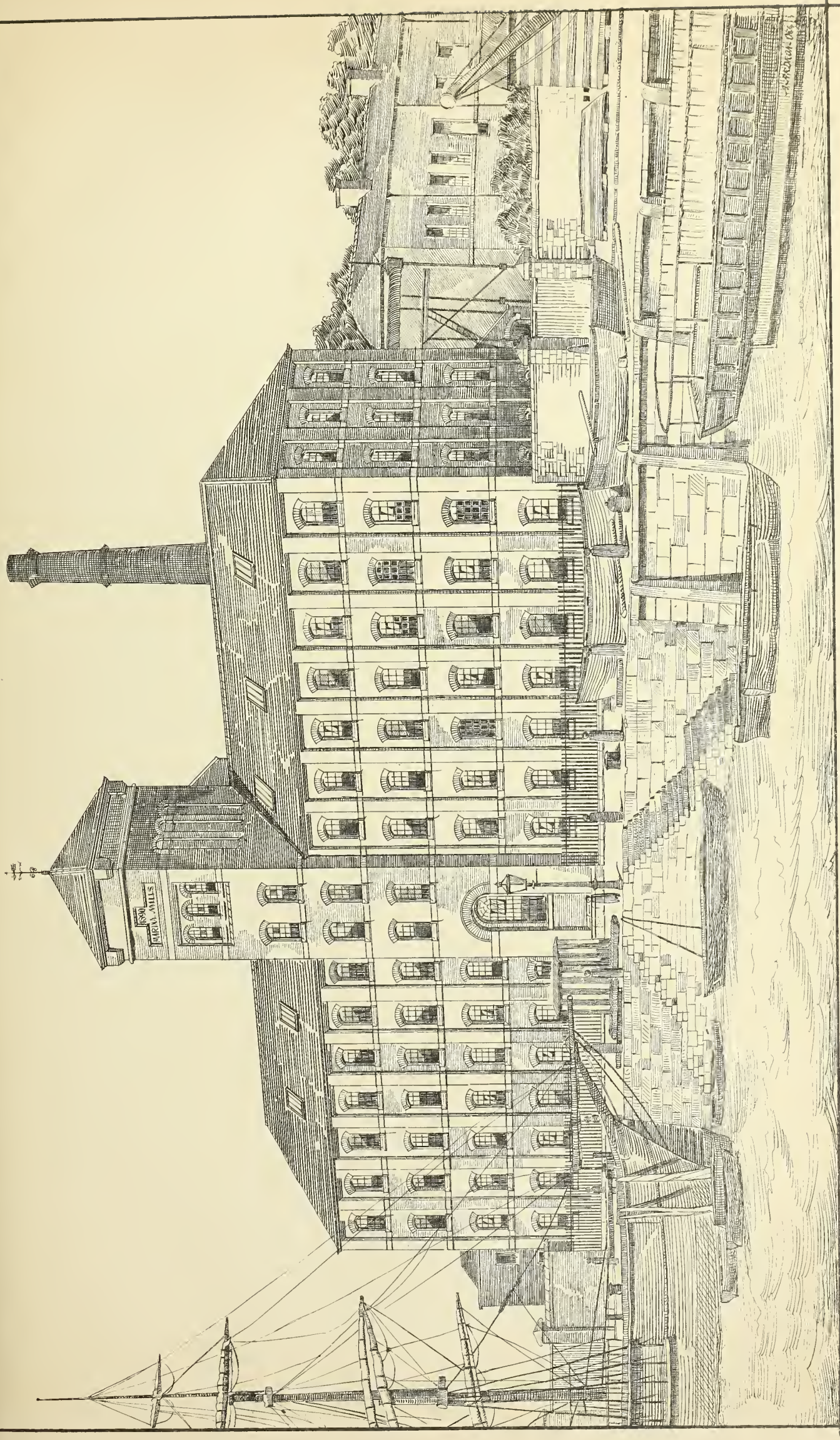
The plaintiff was examined, and stated that he was a builder, and had taken a contract to repair Clara Church, the amount of which was £197. He was paid this amount, less £4, clipped off by the architect, Mr. Fuller; but there were a number of extras ordered by the defendants, which formed the subject matter of present action. There was £8 10s. for new flooring; £10 for new cornice; £7 10s. for new tiling; £7 for 4 inch gutters; £5 10s. for painting roof timbers; £4 10s. for partition in porch; £12 for new pulpit; £21 for taking off old paint and staining and varnishing, which was a departure from the original specification. He estimated for all those extras at the time, and the defendants agreed to pay the amounts, but afterwards each of the items was clipped by the architect, Mr. Fuller.

In cross-examination plaintiff admitted that there was a Mr. Harris engaged with him in the work, as a silent partner, and he had received £14 19s., amount of receipt produced. He also admitted that his prices were to be subject to the architect's approval.

Thomas Harris said he remembered coming down to Clara and getting the £14 19s. He was sent down by Mr. Tyrrell for the money ordered by Mr. Fuller. He did not like the way the receipt was drawn up by Mr. Browne. He said he would give a receipt for the amount on account, but he should either sign the receipt made out by Mr. Browne or go back without the money; and as they wanted money badly at the time, he had to sign it.

Joseph Byrne, Dublin, was examined, and stated that he is an Architect and Builders' Surveyor; he went over the work, and considered Mr. Tyrrell's prices very reasonable, and the work satisfactorily done, and a good job.

For the defence James F. Fuller, Architect, was examined, and stated that he passed the work, but under protest, and at the same time he told Tyrrell and his partner that it was as bad work as ever was done. In regard to the pulpit item, for which he allowed £9 10s., he went to Messrs. Brooks and Thomas, who had supplied it, they let him see their books, it cost £8, they made a case for it and delivered it free at the railway, but he considered a higher price had to be paid than if Tyrrell was able to manufacture it himself, as contractors generally do. He allowed him £10 for the burning off of the paint.



Messrs. JOHN FURLONG AND SONS' NEW FLOUR MILLS,
VICTORIA QUAY, CORK.

JAS. F. M'MULLEN, Assoc. Insp. C.E.I., ARCHT.

THE LIBRARY
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UNIVERSITY OF ILLINOIS

In reply to Mr. Fetherston-H. on cross-examination, witness stated he was Architect for the Church Representative Body, and he was sure he was not exaggerating when he said he had passed over 100 churches. He considered 6d. a yard would pay for burning off paint.

Mark Browne stated that the full amount awarded by Mr. Fuller was paid, but the work was done in a very unsatisfactory manner, and some of the tiles were painted, in place of putting in proper colored ones, and now the paint was washing off, and the border was a show through this cause.

Patrick Smith, painter, Kells, Co. Meath, stated that he carried on his business in this country, and Westmeath and Meath. This witness gave his evidence in a clear and satisfactory manner, and showed much intelligence, and although Mr. Fetherston-H. cross-examined him at length, could not shake his evidence one bit. He stated he used Laxton's prices, and the price for staining and varnishing would be 8d. per yard; and for cleaning off old paint by potash, 6d. per yard; burning off hot irons under various circumstances went up as high as 4s. per yard. But although that plan had been adopted by Mr. Tyrrell, he did not consider it at all the best plan. He would say for stripping, staining, and varnishing, 1s. 5d. per yard.

In cross-examination by Mr. Fetherston-H., witness stated that he had experience of Dublin work and prices.

His Honor, in giving his decision, said that both Mr. Tyrrell and Mr. Harris signed the document, subject to prices fixed to Mr. Fuller's approval, and Mr. Tyrrell had sent down Mr. Harris to get the money awarded from Mr. Fuller, and even if they did not sign this, the most he could give a decree for would be £4 or £5 on the pulpit transaction; but, on the other hand, if the question of had work was before him, he was afraid he would have to give substantial damages in favour of the defendants. However, he would suggest that the defendants give Mr. Tyrrell £4 or £5, but he would not give any decree for it. He would dismiss the case without prejudice, and on the application of Mr. Richards, his honor allowed £2 travelling expenses for witnesses.

VENTILATION OF PUBLIC BUILDINGS.*

It is not (said the author) the carbonic acid, but the organic matter in the air which had the baneful effect on public health, and if the organic matter could be got rid of, the question of ventilation would be simpler and cheaper. The origin of that organic matter had been very generally attributed to respiration, but that view had now been definitely set on one side, and experiment had shown that the breath was not to be blamed as the source of the organic matter in badly ventilated buildings. He mentioned the case of a German army doctor who had all the soldiers of a particular barrack compulsorily bathed, with the result of a very marked improvement in the state of ventilation, and he added that if persons could be by law compelled to bathe regularly, and to have their clothes periodically cleaned, the cubic space necessary for the healthy existence of persons would be very much smaller than it is. Taking, however, the quantity of carbonic acid present in the air as a test of the state of the ventilation, Dr. Stewart gave the results of analysis of the air in different public buildings in Edinburgh. The best results had been got at the infirmaries, where the carbonic acid was less than 6 cubic centimetres per 10,000—showing excellent ventilation—and the quantity varied through different classes of buildings, the worst record being that of St. Cuthbert's Church during service, when 63 cubic centimetres per 10,000 were found in the lower gallery.

* By Dr. C. Hunter Stewart. Read before the Royal Society of Edinburgh, in continuation of his researches on above subject.

In other churches it varied from 20 to about 50.

Investigations were made in a number of public schools, and results were got in some measure corresponding to the accommodation per child. In one school, where a fan was used to ventilate the rooms artificially, it was found that when the fan was idle there 12·1 cubic centimetres of carbonic acid per 10,000, and when the fan was working 15·56. In the public library, when the fan was at work, the carbonic acid was 8·9 per 10,000, and when it was idle about 10. Lord Kingsburgh commended the law courts to Dr. Stewart as a field for research. He would find them a much richer field in the way of organic matter and everything else that was bad than any place he had yet tested. Their ventilation there consisted in this—that when they had been tortured for a few hours, those of them who could leave did so for a few minutes, and ordered every window to be thrown open, so that everybody that remained behind had a bath of cold air. There could be no doubt that the "great unwashed" frequented the law courts more than any other class in the community. It was the only theatre they had for which they had to pay nothing; and it was at the time when judges and counsel were under the greatest mental strain that the courts were crowded with human beings, most of whom would be the better of having the German doctor's discipline enforced. Lord McLaren said he thought that, since the courts must be open to the public and only a limited number could be admitted, they should insist on no one coming in without being decently attired. That was the true solution of the matter.

"HOUSING" IN DUBLIN.

In responding recently to a query put by "An Inhabitant" to a contemporary, "A Large Taxpayer" holdly takes up the important question of the Housing of the Working Classes in the city, and as to the means by which certain grievances in reference to the demolition of one class of houses and the non-providing of more suitable ones, may be remedied. The remedy he suggests, as the result of large experience in the management of house property, would be "to alter and improve the law, so far as it relates to small tenancies in Dublin, so as to make it a criminal and punishable offence to defraud the owners of that class of house property, and you will not need to ask for the suggestion again, as there are many thrifty, speculative men in Dublin (myself included) who would gladly invest their savings in that class of property, but who now are deterred from doing so, in consequence of the absence of the smallest protection against the fraudulent and destructive practice of the very class about whose housing we hear so much said, and meet with so much written, by persons who evidently know very little of the inner working of the matter on which they write and speak so much. If "Inhabitant" only knew what those who have tenement property have to bear with from the people they house, he would use all the energy and influence available to have the law so improved. I could give a few instances from my personal experience, within even the last few weeks, where I have several houses suitable for working people put in good order, and having suitable sanitary accommodation, and in an open, airy situation, and on which I spent, and am always spending, money to keep them in good order; but I find it almost labour in vain, as the very persons for whose benefit and accommodation I try to do so much, are the very people to defraud me out of my rent, and smash the windows, doors, &c., and in almost every other conceivable manner injure, abuse, and destroy the very premises which they have recently got into. In many cases, by false pretences and recommendations, this they frequently succeed in doing, and continue to do, knowing well that, as the law stands at

present, they can do so with perfect impunity, and without any fear of punishment, as the only remedy the owner has is ejectment by a process, which, before the police magistrate, takes four weeks; and if the weekly rent be over 4s. 7d., it takes as many months before the Recorder, and with considerable expense. During all this time, no rent is paid, whilst annoyance and destruction are increased by them, well knowing that when the owner has been subject to all these, they (the tenants) have no fear of after consequences, but simply glide off into some other place, probably procured by fraudulent representation, and play the same game of robbery and destruction over again. I regret to say there are hundreds of the so-called working classes who make this a regular practice, and don't pay more than four or five weeks' rent out of the 52 weeks of the year. How, then, would any man be fool enough to invest his savings or capital, in the face of such a law? If the Sanitary Association ever hope to succeed in what they have in view—viz., the better housing of the working classes—they must first either instruct, or, by an improved law, compel, the working classes to be more honest in the paying of their rents, and more careful to properly use the premises and accommodation provided for them, making it punishable by imprisonment if they fail to do so. They would then find plenty of capitalists, both small and large, willing and ready to provide even more accommodation than is required, but not till then. I have lying idle, in a most suitable and desirable situation, space for about 30 or 40 such houses or cottages; but, until the law is altered and improved, I would not put a brick on it, and I have no doubt there are others of the same mind."

NOTES OF WORKS.

The labours of the committee which voluntarily undertook the task of providing bathing accommodation at Rostrevor, for ladies frequenting that watering-place, have now resulted in fruition, and the useful system of bathing boxes will be opened this week. The committee have also busied themselves in acquiring the permissive occupancy of ground belonging to Mr. David Mahood, and facing Carlingford Lough, as a promenade. This, as well as the site of the bathing boxes, was granted by Mr. Mahood with the greatest willingness. Those interested in the development of Rostrevor are evidently bestirring themselves.

During the past few months many improvements have been carried out at Warrenpoint, County Down. Amongst those may be mentioned the new schools in Peter-street for the Sisters of Mercy, the architect being Mr. E. J. Brown, Newry. The new schoolroom is divided into three compartments, which will provide accommodation for a large number of children. Every recent improvement is being carried out in accordance with the laws of sanitary science. Large and important stores are being built, under Mr. W. J. Watson, M.R.I.A.I., for Mr. R. A. Sims, to replace those recently burned down. The contractor is Mr. James Wilson, T.C.

TENDERS.

For building wing to the Convent of Marie Reparatrice, Cork. Mr. S. F. Hynes, architect, Cork:—

E. and P. O'Flynn, Cork (accepted).

For building doctor's residence, Cloughroe, County Cork. Mr. D. J. Coakley, architect, Cork:—

| | |
|-------------------------------------|--------|
| Coffey, Middleton | £1,114 |
| Connell, Cork | 1,090 |
| F. Barry, Blackrock | 1,030 |
| S. Wakefield, Cork | 991 |
| D. Ford, Ballincollig (accepted) .. | 858 |
| Lynch, Youghal | 795 |
| Shea, Dripsey | 740 |
| Architect's estimate, £835. | |

HISTORIC MEMORIALS OF LEIX.

(Continued from page 131.)

WHEN the main body of the infantry arrived in Stradbally, old Father Paul Geoghegan applied to the colonel, and stated what wanton depredations had been committed on the premises by those marauders. The colonel told him they should be punished, and he promised to encamp abroad in the fields adjoining the town, so as to secure the monastery from further molestation, while he advised the friar to retire within the house, an injunction he readily observed. However, when he retired, that rabble soldiery rushed into the outside hawn, into the garden and orchard, devouring the fruits and vegetables that came in their way. Not that alone, but they pulled up some plants from the very roots, casting them on the dunghill and into the sinks. Some foreign beans were growing in the garden, and the soldiers tearing them down, with the lives in which bees were kept, old Father Paul was provoked beyond endurance, and he uttered a malediction against the trespassers. One of the soldiers who was an Ulsterman, offered to restore the beans he had taken to the friar, who refused to receive them, while another soldier declared he cared not for the friar's denunciations. Next morning, two captains visited old Father Paul, and told him that man was choked eating the very first of the beans taken from the friary, and that he expired with a great oath from his lips. Deeming this to have been a judgment from God, the other soldiers reserved those beans they did not eat, and restored them to the friars.

Afterwards the whole party took up their several quarters in the garden, orchard, and even in the chapel, while the colonel told Father Paul it was necessary for their safety to store ammunition within the monastery, and to have some musketeers to guard it. The friar answered, that he would undertake to keep the ammunition, without admitting the disorderly soldiers, who seemed to have no respect for place or person; but, he offered, if the colonel were pleased, to admit himself and some of his chief officers, who should be likely to preserve their premises from desecration. Whereupon, the colonel presented the General's orders, and signed Thomas Preston, authorising him to secure the monastery for the soldiers, and to treat the friars as enemies should they attempt to offer any opposition. "You see," said the colonel, "what orders we have, and although much is done, and you highly complain, yet our warrant did authorise much more, wherefore be satisfied, for we must, even if loath to do so, put our orders into execution." The friar asked for liberty to go into his monastery, whence he should answer them with more safety.

This he was not permitted to do, but rather he was threatened with being remanded to the General, while it was intimated that entrance should be obtained by setting fire to or breaking open the door. However, some friendly or courteous captains there suggested a compromise, viz., that Lieutenant-Colonel Synott, with twelve musketeers, should enter the monastery to guard the ammunition, while they might continue to remain, and that on leaving they should re-admit the friars. An engagement was given, that only the garrison thus chosen should be allowed to enter, and that no further trespass on property within or without that house should be permitted, while compensation for what had happened should be made.

Trusting in these conditions, the door was opened by old Father Paul, when a crowd of soldiers entered, notwithstanding the remonstrances of the friars. Having taken possession of the house, they ordered the gate to be left open, so that all might come and go at pleasure; and they even ordered and managed everything as they wished about the place. Some took possession of

the garden, some went into the mill,* while others lodged in the chapel. Even the latter was desecrated in many ways: fires were kindled in it, and some of the wood on its roof was burned, although sufficient fuel was at command, while they used the altar-stone itself for purposes of whetting knives. In the mill they burned the trough, broke the kieve and watercourses in various places, and wantonly demolished the house when it had served their purpose, so that it should not afterwards be useful for the friars. The garden and its crop was uprooted during the forty-eight hours they were in possession. It seems the friars would not admit the intruders to assist at their Mass, and Lieutenant-Colonel Synott swore he should send them as prisoners to Kilkenny. The very morning they marched away, two captains and a lieutenant came to take their leave of Father Paul, and told him 500 of their men were missing since they had come to Stradbally. These had probably deserted from their body. They also stated, they had a captain carrying his own colours, and not a single soldier in his company; another captain had only one man; another had only five, and others had twelve; but they thought St. Francis had been angry with their party, because of their acts. They prayed God might shield them from His indignation, and they asked the friars to be mediators between their patron and themselves, promising too, they would seize on the first opportunity to forsake Preston and abandon his cause. Contrary to his former oath, Colonel Synott left a sergeant and twelve soldiers to garrison the monastery, when he marched away with the main body to Leagner Athy, then threatened with a siege by General Preston.†

THE ROYAL IRISH ACADEMY.

On Monday, at a stated general meeting of the Royal Irish Academy, the President, Dr. Ingram, S.F.T.C., in the chair, the Rev. Edmund Hogan, Todd Professor, read a paper on "The Linguistic Value of the Text of the Battle of Rosnaree." The text (he said) contained many words which are not to be found in any of the published dictionaries or manuscript glossaries; it also contained interesting middle Irish forms. He considered that the publication of the "middle" Irish texts would supply the materials from which a "middle" Irish grammar, which was greatly wanted, could be compiled.

Dr. Joyce expressed a high opinion of the communication, and hoped that the Rev. Mr. Hogan would himself undertake the publication of a "middle" Irish grammar.

Mr. John Ribton Garstin, D.L., exhibited "Rubbings" from a number of unpublished Medieval Inscriptions. One was taken from a silver plate which the Rev. Dr. Abbott, F.T.C., Librarian of Trinity College, found on the under surface of the crystal which decorated the cover in which the "Book of Moling" is kept. The inscription contains the name of "Arthur, King of Leinster," but the rest of it is unsolved. Another rubbing was from a stone in Kildare Cathedral, on which was a rude representation of the Crucifixion, and an inscription in English referring to an indulgence. Another was from a stone recovered by the Duke of Leinster from a farm building in Kildare. On it was a Latin inscription, the beginning and end of which were illegible, but in the middle were the words "Defendatns Hyb." It was of the 16th century. Another was from a stone in the Abbey of Clontuskert, County of Galway. This stone was 20 ft. from the ground, and recorded, in Latin, that the abbey was built by Mathew, Bishop of Clonfert, in 1471. The remaining rubbing was from a monumental stone in the Protestant

Parish Church of Fethard, County of Tipperary, of the date 1508, and bearing an inscription relating to the family of Hackett.

The communication was referred to Council for publication.

Mr. Charles Browne, M.B., Harcourt-street, and Mr. Thomas R. J. Polson, Wellington-place, Enniskillen, were elected as members.

THE IRISH LIGHT RAILWAYS.

On Monday, in the House of Commons in Committee on Supply *re* Irish Estimates, on the vote of £47,371 to complete the sum necessary under the Tramways and Public Companies (Ireland) Act 1883, and the Light Railways (Ireland) Act, 1889,

Colonel Nolan asked for information regarding the Galway and Clifden, and the Tuam and Claremorris Railways.

Mr. Jackson said the former was making fair progress. It was not desirable to do the work too rapidly by the employment of a great many men whom they would have to turn off suddenly, but to proceed slowly by local labour. Whether the line could be opened to Oughterard soon or not, depended upon the construction of the bridge just outside Galway. As to the Tuam and Claremorris line, no doubt there had been some delay, which however, was unavoidable. He believed the difficulties had been overcome, and that an agreement had been made and signed. Briefs had either been lodged with counsel or were on the point of being lodged with them. The first thing to be got was an order of the Privy Council, and as soon as that order had been obtained, he was assured that progress would be made.

Dr. Tanner said he desired some information from the Chief Secretary with regard to the Schull and Skibbereen Railways, the Westport and Mulraney Railway, and the other railways, which were included in the estimates. On one of the railways he was assured that there were places where the passengers were called upon to get out and push the railway carriages up certain of the inclines! The present Chief Secretary had certainly shown a certain amount of intelligent interest in these matters, which were material matters to Ireland, and he hoped he would be able to give them some satisfactory information as to the progress which was being made.

Mr. Jackson said that with regard to the Collooney line, he believed good progress was being made. A contract was made with the Great Southern and Western Railway Company, and although there might have been a little delay at first, he believed they were now making very good progress, and that the work was proceeding satisfactorily. As regarded the guarantee that was given for the Schull and Skibbereen, he did not know that he had very much responsibility. Of course the Treasury has a responsibility under the statute. A guarantee was given for a certain sum of money, and the Treasury has to bear its contribution towards that. But it has been a very unsuccessful line. It practically earned nothing. One of the reasons—at least he hoped it was one of the reasons—was that it stopped practically at the top of the hill, and did not go down to the water's edge. His predecessor (Mr. Balfour) in the course of the relief works that were carried out, sanctioned an expenditure. He believed that £2,000 had been expended altogether for the purpose of continuing the tramway, so as to enable them, if they brought any fish there, practically to take it from the water's edge. He hoped that expenditure would prove beneficial to the original undertaking as well. He believed the company has to take an Order in Council to enable them to get over the portion that had been made out of the money he had referred to. Practically they had offered to the company the new piece that had been added on at the Schull end of the line. They are to take it over, and work it; but in order to put themselves in a legal position, it was necessary that they should get an Order in Council.

* The ruins of that mill, beside the abbey, were to be seen within the memory of some yet living.

† See John T. Gilbert's "Contemporary History of Affairs in Ireland from 1641 to 1652," vol. i., part i. Aphorismal Discovery of Treasonable Faction. Books the third, chap. xxxiii., pp. 252 to 254.

He was not quite sure whether the taking over by the grand jury had been completed, but notice to take it over had been given, and, so far as he could judge, there would be no escape, because he believed the grand jury were bound to take it over. It would remain to be seen whether the grand jury could work it more satisfactorily or more cheaply than it had been worked by the promoting company. It had been a very unfortunate affair from the very beginning; and whether the extension to which he had referred would improve it or not, remained to be seen. At all events, it could not do any harm, and it might do a great deal of good.

Mr. Jackson, replying to Mr. Morton, said the Claremorris Line and the Achill Extension Line were not brought under the Act, because both those lines were undertaken without any Parliamentary powers, or really without any authority. They were practically undertaken as relief works to begin with, but since that time steps had been taken to obtain a presentment, and proceedings were now pending in regard to the Collooney and Claremorris Line, to bring it under the statute. He believed the Westport and Mulraney Line was making very good progress. The works were very heavy, and the cost was very considerable. There was an enormous viaduct at Westport, there was another at Newport, and there were some very heavy works right along up to Mulraney. He believed that everything was being done that could be done. The line was being continued to Achill Sound, and he understood that very good progress had been made with the line.

The vote was agreed to.

THE HISTORY OF THE CHURCH AND PARISH OF ST. MICHAEL THE ARCHANGEL, DUBLIN.

(Continued from page 119.)

CURATES (ASSISTANT) AND READERS AT ST. MICHAEL'S DUBLIN.

Collected from the Diocesan Registry, the Vestry-books of St. Michael's, and other authentic sources.

1641.—Thomas Benson, M.A., perhaps the same person appointed 18 Nov., 1681, Archdeacon and 3rd Canon of Kildare, whose will bears date 16 May, and was proved 30 May, 1715. Archdeacon Benson was interred at St. John's on 28 May, 1715. He was son of George Benson, of the City of Dublin, vintner. (See Mason's "History of St. Patrick's Cathedral," page 26, note 4.)

1688, 20 Sept.—Thomas Dobson, licensed Curate, on nomination of John Glendie, Prebendary. A Sizar, T.C.D., 1678. Son of George Dobson, Dublin, born 1660. B.A., 1683. He was Vicar of Mullingar (Meath), 1690-1717, and died in that year.

1690.—Ormsby, Curate-assistant.

1694.—Henry Bilton, educated at T.C.D., M.A., *speciali gratia*, 1694; ordained Priest in the Chapel of Trinity College, 4 March, 1693, by William [Lloyd], Bishop of Killala and Achoury, presented by the Vicars Choral of St. Patrick's, Dublin, to the Vicarage of Kinneigh, [*vice* Thomas Hardcastle, deceased], 29 Aug., 1701.

[1693, 25 Aug.—An order of this date, made by the Consistorial Court of Dublin, runs as follows:—"First—All those who are Curates or Readers in any Church in the Dioceses of Dublin, are to be cited to appear the next court day and enjoined either to take license from the Archbishop, if approved of, in seven daies after notice, or to be proceeded against, as contemnors of his Grace's jurisdiction. (Second)—All persons who have Cures in other Dioceses are to be admonished that they doe returne to their severall Cures and their Licences to be null and void, if any they have; for serving any Cure in this Dioceses."]

Mr. Bilton was licensed as Curate of Kilkea (on nomination of Charles Carr), 29 Aug., 1702.

1695, 2 May.—William Grattan, licensed as "Lector," on nomination of B. Scroggs, Prebendary. He had been a Scholar of Trinity College, and was a Fellow in 1697; B.A., 1693, M.A., 1696; he became Rector of Derryvullen, Diocese Clogher, in 1701, and of Cappagh, Diocese Derry, in 1703, and died aged 47, 1719. (See IRISH BUILDER for 1 Sept., 1888, page 225, for a Memoir of the Grattan family.)

1697, 16 March.—Peter Davys, M.A., son of Thomas Davys, of the City of Dublin, shoemaker, was educated in St. Patrick's Free School, obtained a Sizarship in Trin. Coll., Dub., 5th May, 1684 (he being then seventeen years of age), and graduated B.A. *Vern.*, 1689; and M.A. *Æst.*, 1692. He became Licensed Curate of this parish on the nomination of John Francis, Prebendary. He was appointed 15 Jan., 1694, Master of St. Patrick's Free School, where he had previously received his education. He was shot in the thigh by the boys in a "barring out," and petitioned the Dean and Chapter for compensation.

In 1704.—Philip Chamberlain appears as "Predicator" (Visitation Book). He was collated on 25 Feb., 1714, to the Prebend of Rathmichael, and was installed on the following day; he held this stall until his death. He was buried on 2 March, 1751, at St. Nicholas Within. (See IRISH BUILDER for 1st and 15th Sept., 1887.) He was a Scholar of Trinity College, and graduated B.A. *Vern.*, 1695.

1706, 4 May.—William Jackson, licensed as Curate on the nomination of Francis Higgins, Prebendary. He was elected a Scholar of Trinity College, Dublin, in 1702, and graduated B.A., 1704. His Letters Testimonial are dated July, 1706.

1711.—William Jones, was probably elected a Scholar of T.C.D., in 1704, and graduated B.A. *Vern.*, 1705, and M.A. *Æst.*, 1708. In 1724, he became Vicar of St. Mary's, Athlone, Diocese of Meath, and held that benefice until his death, which took place in 1747.—*Exshaw's Magazine*.

1716-18.—John Pitt, M.A., appears as "Lector." He was probably the same person who was Prebendary of Lulliamore (Kildare), 1742-6, and of Nunery, in that diocese, 1746-64. He graduated B.A. *Vern.*, 1707, and M.A., *Æst.*, 1710.

1718.—Laurence O'Neill, Lector.

1722.—James Robinson appears as Curate; in 1736 he became Chaplain to the King's Hospital, Oxmantown, and in 1761 was elected Prebendary. (See IRISH BUILDER for 15th April, 1892.)

1723.—Cooper appears as "Lector."

1727.—Samuel Hunter.

1728.—John Gill, Curate-assistant, ordained Deacon in St. Peter's, Dublin, by Dr. John Hoadley, Bishop of Ferns and Leighlin, 24 January, 1727; appointed to Rathmore (*vice* Edward Drury, deceased), 21 June, 1737, and to Tallaght (*vice* Robert Trotter, deceased), on presentation of Rev. John Wynne, D.D., 7 Feb., 1737. He died in May, 1740.

1760, 19 Nov.—Edward Ledwich, B.A., nominated "Lector," by Edward Ledwich, LL.D., Prebendary, and licensed 28 Nov. He became Curate of St. Michael's, 19 March, 1761. Mr. Ledwich was ordained Deacon in St. Michael's by Dr. John Garnett, Bishop of Ferns and Leighlin, 22 Dec., 1755.

1761.—James Robinson, Curate, was elected Prebendary on 3 March of this year. (See IRISH BUILDER for 15 April, 1892.)

1761.—Thomas Robinson, licensed as Curate, 19 March. He was ordained Deacon, 22 Dec., 1758, by the Bishop of Ferns and Leighlin, and Priest on 12 March, 1758, by Dr. William Barnard, Bishop of Derry, both ordinations being held in St. Michael's. (See a Memoir of him in the IRISH BUILDER, as Prebendary, 15 April, 1892.)

1771-5.—Robert Law, ordained Deacon, in St. Nicholas' Within, by Dr. John Oswald, Bishop of Raphoe, 21 Dec., 1755, and Priest, in St. Mark's, Dublin, by Dr. John Garnett, Bishop of Ferns and Leighlin, 27 Dec. following. (For some account of him, see amongst the Prebendaries, IRISH BUILDER for 15 April, 1892.)

1775, 5 August.—Samuel Murray, licensed Curate-assistant on the nomination of Dixie Blundell, Prebendary. He was ordained Deacon at St. Thomas', Dublin, 29 May, 1763, by the Bishop of Limerick, and Priest at St. Mark's, Dublin, 29 April, 1764, by the same Prelate (Dr. James Leslie). Mr. Murray graduated at T.C.D., B.A. *Vern.*, 1763, M.A. *Vern.*, 1769, B. and D.D. *Vern.*, 1788. He was licensed as Stearne Catechist, 4 March, 1705. Elected by the Dean and Chapter of Christ Church Cathedral to the Rectory of St. Paul's, Oxmantown, 5 July, 1782; he held that benefice until his death in 1817. Dr. Murray had a licence for marriage on 8 Sept., 1793, with Mrs. Sarah Tomlinson (widow). During the last years of his life he lived in Henrietta-street.

1782,—23 August, 1812.—Bartholomew Clossy, licensed Curate, on the nomination of Thomas Robinson, Prebendary, dated 19 Aug. From a certificate in the Diocesan Registry—under the hands of Wm. Browne, Minister, and Caleb Jenkins and Fennell Collins, Churchwardens of St. Andrew's, it appears that he was son of William and Mary Clossy of that parish, and was baptised on 10 Nov., 1757.

1790, 15 January.—Henry Savage, licensed as Curate-assistant, on the nomination of William Dobbin, Prebendary, at £50 per annum. According to Mr. Lea's Ecclesiastical Directory, we find him Vicar of Taghadoo, in the year 1814, but he was still Curate of St. Michael's, in 1820. Mr. Savage graduated B.A. of Dublin, *Vern.*, 1780. He probably died in 1824.

1819.—Richard Roe, B.A. of Dublin, *Vern.*, 1789.

1822-45.—Charles McDonnell, B.A. of Dublin, *Vern.*, 1818; M.A. *Vern.*, 1822, LL.B. and D. *Æst.*, 1831.

1832.—Charles Quinan, B.A., of Dublin, *Æst.*, 1825, M.A. Nov., 1832.

1845.—Wm. Marraile, B.A. *Vern.*, 1844; M.A. *Vern.*, 1848; B.D. and D.D., *Æst.*, 1863, Vicar of St. Andrew's, Dublin, and Treasurer of Christ Church Cathedral.

1852.—John Hare Duck (now Duke), D.D., Canon of Downpatrick Cathedral, and Incumbent of Gleucraig (Down).

1853.—James Hunter Monahan, now D.D., Precentor of Christ Church Cathedral, and Rector of St. Mary's, Dublin.

1856.—George Campbell Williams, B.A. *Æst.*, 1843, M.A. *Æst.*, 1856, B.D. and D.D. *Æst.*, 1874 (Dublin).

1860.—Robert Flemming, B.A. *Vern.*, 1848, M.A. *Vern.*, 1851.

THE END.

MISCELLANEOUS.

STRIKE OF CARPENTERS.—At breakfast hour on Thursday 240 members of the Cork Carpenters' Society struck work. The point in dispute is whether skilled or unskilled labour should attend the machines. Work at Glanmire new station, the Agricultural Show buildings, the Lonic Asylum, and other big works is at a standstill. If the strike should last, 800 families will be affected, as the other building trades must cease work. At a meeting of the United Trades' Association, Mr. Harrington presiding, the carpenters' strike was under discussion. The President said that if the master builders won the day, it would be ruinous to the trades of Cork. The carpenters' delegate, Mr. Twomey, explained that the point in dispute was whether skilled or unskilled men should work labour-saving machines, now introduced for the first time. A suggestion was conveyed from the council to the strikers to make an effort towards arbitration.

Mr. Edward Compton, "with a view of giving character" to the tercentenary performances at the Gaiety Theatre, Dublin, commissioned Mr. Frankfort Moore, a short time ago, to write a little play for the occasion, dealing with some incidents in the life of Oliver Goldsmith, and the result is the completion of an episode which the author has entitled "The Jesumy Bride." Mr. Compton will take the part of *Oliver Goldsmith*, and Mrs. Compton that of *Miss Horneck*, Mr. Lewis Ball appearing as *Dr. Johnson*, and Miss Aickin as *Goldsmith's* landlady, *Mrs. Fleming*.

THE SEWAGE QUESTION.—The methods at present employed for disposing of sewage are divided by a Mr. G. C. Moore into three classes:—Lime processes, in which the purification of the liquid is all that is sought, the sludge being worthless; processes in which lime is not used, the best known being that of precipitation by a mixture of clay, alum, and charcoal with a little blood, whereby a sludge of some little value is obtained; and irrigation, which is objectionable on practical and sanitary grounds. As an improvement, Mr. Moore has proposed distilling the sludge cake for ammonia, using the residue as fuel for the succeeding charge. He has succeeded in keeping up the fire in the furnace with this fuel alone. A slight blast is sufficient to effect the distillation, giving 80 per cent. of the theoretical yield of ammonia, and in such a fire the fuel cake is reduced to a fine ash, which becomes clinker under a great blast.

THE ELECTRIC LIGHT IN BATH.—At a meeting of the Surveying Committee last week, a letter was read from Mr. J. W. Gatehouse, the Electric Light Inspector, with reference to the suggestion that fortnightly reports as to the illuminating power of the light should be made. He pointed out various considerations which would have to be dealt with in connection with the proposal, and the letter was referred to the Electric Light Committee. Mr. Ricketts asked a question about the new glass globes which had been introduced?—Mr. Sturges said he met Mr. Massingham in the street the other day, and he spoke to him "straight." He said to him, "You have had a request made to you, and instead of endeavouring to meet the committee as fully as you could, the company seems to hesitate, and in my opinion you are 'a penny wise and a pound foolish.' I think it would be much wiser of you, and more beneficial to the public, if you would attend to the reasonable request they have sent in." Mr. Massingham said the company were going to send back a letter, to the effect that they would do their best to introduce the Pearl line globes instead of the present lamps. He told Mr. Massingham that that was not what the committee or the public wanted. They wanted all the globes altered at once *en bloc*, then the city would appreciate it, but, if they simply put them up one at a time, they would lose all credit for it. Mr. Massingham stated that there would be another meeting of the directors soon, and he would bring the matter before them. He (Mr. Sturges) hoped the company would be wise enough to see the right thing for them to do was to comply with the request of the committee. On the motion of Mr. Ricketts, the Electric Light Committee was requested to report to the committee on this subject.

HER MAJESTY'S THEATRE, LONDON.—Messrs' Horne, Son, and Eversfield have sold by auction the furniture and fittings of Her Majesty's Theatre, Haymarket. The sale took place upon the stage of the theatre, and the prices realised were not above those usually obtained at compulsory sales. The ornamental gilt wood and plaster proscenium, surmounted by the Royal coat-of-arms, was knocked down for 22s., and the drop curtain, by William Telbin, senr., was bought for £6 15s.; while the large cut-glass chandelier, which originally cost upwards of £2 000, fetched only £9. If death had come to Her Majesty's Theatre five-and-twenty years ago, many sincere friends of the old opera-house would have mourned its departure; but for the last ten or fifteen years it has led such an unfortunate existence, that when the inevitable auctioneer entered with the fatal hammer, the only question asked is, What has he to sell? There is no "goodwill"—that evaporated long ago—no theatrical properties or scenery worth speaking of—they were burnt in 1867, and have never been replaced—and there is nothing on the dusty and melancholy stage but a little furniture and a host of memories that cover a couple of centuries. The destiny of Her Majesty's Theatre is to swell the already large list of gigantic West-end hotels, this time with a *porte cochère* which, if it is unable to rival that of the Grand Hotel in Paris, may probably reach the dimensions of the Grand Hotel in the Boulevard Anspach in Brussels. With Drury Lane practically condemned to destruction within

three or four years, or to be resited conditionally on the line which the new street may take which for the last quarter of a century has been threatening to unite the Central Strand with the Central Holborn, and with Covent Garden exposed to the hungry competition of dealers in potatoes and cabbages, there is fair cause for regret that a theatre like Her Majesty's, adapted both by structure, position, and tradition to be the home of the lyric drama of all nationalities, is to be destroyed for ever, with little chance of finding a site of equal value.

THE SCULPTURE FOR THE NEW MUNICIPAL BUILDINGS, BOMBAY.—The last consignment (says the *Western Times* of 9th inst.) of sculpture for the new Municipal Buildings at Bombay has just left Mr. Harry Hems' studios in Longbrook-street, Exeter, for its distance home in the midst of the most prosperous and the fairest city in our Indian Empire. This final batch consists of two colossal wyvern-like creatures winged, having the torsos of quadrupeds and the tails of dragons. They are powerfully modelled, and take much the attitude that a horse would do were he suddenly reined up before some obstacle. These immense non-descripts are to be placed upon pedestals (one on each side of the foot of the grand staircase), and will form most striking and imposing features in those positions. The scaffolding is entirely cleared away from the exterior of the new public buildings, and the Indian papers are loud in their praise of the excellent effect of the fine sculpture which, during a period of some two years past, has been fashioned in Exeter at the Longbrook-street studios. Just before these figures were despatched, they were photographed by Mr. Long of High-street, Exeter. One of these plates also embraces a view of Mr. Hems himself, who looks none the worse at the anticipation of celebrating his Jubilee birthday next Sunday.

SIR JAMES BRUNLEES.—Sir James Brunlees, the eminent engineer, who had been a member of the Society of Arts since 1858, died at Argyle-lodge, Wimbledon, on Thursday, 2nd inst. He was born at Kelso, N.B., January 5, 1816, and was educated at Edinburgh University. In 1838 he became an assistant engineer to Mr. Alexander Adie on the Bolton and Preston Railway. Subsequently, under Sir John Hawkshaw, he was occupied with the works of the Lancashire and Yorkshire Railway. He next constructed the Londonderry and Coleraine Railway, and then the works of the Ulverston and Lancaster Railway. Since that time his principal works were the Solway Junction Railway, the Clifton Extension Railway, the Mersey Tunnel Railway, and the Avonmouth, King's Lynn, and Whitehaven Docks, the San Paulo Railway, the Minas and Rio Railway, the Porto Alegre Railway, and the Central Urugua and Bolivar Railway. He was knighted in 1886, and received from the late Emperor of Brazil the decoration of the Order of the Rose. Sir J. Brunlees was president of the Institution of Civil Engineers in 1882-83, and a member of the Council of the Society of Arts in 1876-77.—*Soc. Arts Jour.*

POSTAL REFORMS.—The changes which took place Wednesday (June 1) remove many anomalies, and smooth the working of the postal machine. Foremost among these changes is the abolition of re-direction fees where, owing to removals, letters are forwarded from one address to another. But the gain of the public does not stop here. Hitherto, in order to obtain immunity from the re-direction charge, the person removing was required to give notice of his change of address to the nearest post-office. Official re-direction has never been conceded to a person leaving his house for a month's holiday in the country or at the sea-side; and re-direction by the servant or friend of the addresses has never been allowed free of charge. In future no such distinction will exist. Whether the letter is re-directed by an official or by the relative of the addressee, it will be carried to its new address untaxed. Free re-direction has been conceded with regard to letters only, and not to circulars. Of the other changes the most important is the re-classification of book-post matter. The result of the admission of invoices and other documents to the halfpenny rate was to establish as the final distinction between book-post and letter-rates such trivialities as the peruse turn of a sentence, an intimation at the foot of an invoice that "empty casks should be returned" being past for a halfpenny, while the more polite message "please return empty casks" was charged a penny. The new book-post rules seek to sweep away these absurdities. They further alter the definition of a circular, substituting the plain requirement that the circular should be wholly in print, with certain specific exceptions. They also state plainly that a circular may be sent on the same sheet of paper with any other document transmissible by book-post.

Sir James Ferguson's new regulations will also admit any book-post matter to be sent in the same packet with a pattern or sample without extra charge. A packet of newspapers insufficiently prepaid will in future be charged with double the deficiency of the newspaper rate, when that is less than the book-rate; and a newspaper containing book post matter will be charged with double the deficiency of the book-rate, instead of the letter or parcel rate, as heretofore. In these and other directions the present Postmaster-General shows his desire to meet the public convenience. The present regulations are, it is understood, a sequel to the Post-Office Act which Mr. Raikes carried shortly before his death. But Sir James Ferguson is, says the *Times*, to be congratulated on having carried out the changes thus authorised, in no grudging spirit.

ARCHÆOLOGICAL FIND IN EGYPT.—"About two miles east of Alexandria (writes a *Times* correspondent) is the plain of Eleusis, now a salt marsh and shallow lake, the result of subsidence of the soil, which at some remote period is believed to have occurred over a large area in the neighbourhood of Alexandria. In old time there stood on this plain a temple to Ceres Proserpine, in front of which were placed, as described by ancient writers, colossal statues of Mark Antony and Cleopatra, the former represented as the god Osiris, and the latter as the goddess Isis. These statues are described by Mahmooud Falaky, an Egyptian astronomer and savant, in his book, published twenty years ago, on 'Ancient Alexandria.' He had seen them ten years previously when making researches to find the Canopic-road and to get material to be used by the late Emperor Napoleon in his 'Vie de César.' Since that time they had disappeared, probably covered over again during the levelling of the ground for cultivation. Daminos Pasha, an energetic local archæologist, lately began excavations, and at a spot strewn with large numbers of granite blocks and columns found, as he believes, the remains of the temple. Close by he dug out a much-mutilated colossal statue in grey granite, representing the head and torso of a woman wearing the insignia and coiffure of Isis. The nose is mutilated, but the prominent eyes, the contour of cheek, and the firm rounded chin, show the characteristic traits of the Ptolemies. The head alone is more than *mètre* high. The sculpture is of high order and finish, probably the work of an able Greek artist. A large detached fragment represents a portion of a man's right hand, the thumb grasping the fingers of a female hand, which are of proportions corresponding to those of the statue. Daminos Pasha identifies his find as certainly the statue of Cleopatra, and considers it to be probably a portrait statue of the famous Queen. If so, it is unique and of very great interest. He is continuing the search for the companion statue of Mark Antony, which is believed to have been removed to a considerable distance, thrown into a hole, and covered up. If the search should be successful, these two statues will be amongst the most valuable and interesting relics of ancient Alexandria."

PAINT COSTS NOTHING.—So says a great authority on the subject. The cost is many times repaid by the saving made by preserving exposed wood and iron work, and damp walls are made waterproof. The best of all paints is Carlson's—cheap, simple, and the most durable ever produced, having led the market for nearly a hundred years. Write for pattern lists to 21 Bachelor's Walk, Dublin.

Illustration.

MESSRS. JOHN FURLONG AND SONS' NEW FLOUR MILLS, VICTORIA QUAY, CORK.

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THE IRISH BUILDER.

Vol. XXXIV.—No. 781.

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.



HIS Church, which is situate in a backward street (off North King-street), known as North Anne-street, on the northern side of the River Liffey, although fast approaching the first centenary of its foundation, is better known to

our general readers by the more familiar name, "Anne-street Chapel." Since the Reformation down till the middle of the present century, all Roman Catholic places of worship were designated *Chapels*, to distinguish them from the *Churches*, a more lofty term which was applied solely to their Protestant rivals, as by law established. Even at the present day, Roman Catholics, in general, do not call their *Chapel* a *Church*. The name *Chapel* was not confined to Roman Catholic places of worship: it was also applied to the places of worship of those who differed with, or seceded from, the Protestant Church. Hence we find the word *Chapel* is also applied to the places of worship used by the Presbyterians, Independents, Methodists, &c. Now although this narrow use of the term is obsolete, and all places consecrated to Divine worship may properly be called Churches, we trust that our Roman Catholic friends will pardon us for using this old term *Chapel* in the course of this memoir.

Before we enter into the history of this old chapel, we shall first, by way of introduction, give a brief outline of the old church and parish from which it became divided.

The parish of St. Michan, during six centuries, was the only parish on the north side of the River Liffey, and is coeval with the earliest parishes of the City of Dublin "Within the Walls." About the year 948 a Benedictine Abbey, since known as St. Mary's Abbey, was founded on the northern bank of the Liffey. It was endowed with all the rich and fertile pasture land stretching eastwards along the banks of the River Liffey as far as the Tolka. All the ground lying westward of St. Mary's Abbey contained dense oak forests, the timber of which the Danish inhabitants of Dublin availed themselves for building dwellings, and for exportation. The Rev. Meredith Hanmer, D.D. (Prebendary of St. Michan's), in his "Chronicle of Ireland," tells us that—"Anno 1098, King Rufus, by licence of Murchard, had the frames which made up the roofes of Westminster Hall, where no English spider webbeth or breedeth to this day," and that "the faire green or commune, now called Ostomontowne Greene, was all wood, and bee that diggeth at this day to any depth shall find the grounde full of greates rootes." Here an early Danish colony was formed, and, to distinguish it from the walled city on the southern bank of the Liffey, they called it "Osmanton" (Estmantown), the town of the Esterlings, or foreigners, a name

which has been corrupted to "Oxmantown," by which a portion of that locality is known at the present day. In course of time, these foreign settlers, having embraced Christianity, built a church, which they dedicated to St. Michan, whom they had chosen as their patron; but whether he was an Irish or a Danish saint, we shall leave to those better versed in hagiology to decide. All we know of him is, that his name occurs in the Calendar, under 25th August (viii. Kal., Sept. 1), at p. xlvij of Dr. Todd's "Introduction to the Martyrology of Christ Church," as "*Festum S. Michee Confessoris*," and is described as an Irish saint. In Archbishop Alan's Register, the church is called "*Ecclesia S. Michie*," and "*Ecclesia S. Micheani*." And in the Obits, &c., of Christ Church, the 14th of May is assigned as the date of the dedication of the Church of St. Michan:—"ii Ed Maii, *Dedicatio Ecclesie Sancti Michies*." In the Calendars prefixed to two ancient Breviaries now in T. C. D. Library, the word "*Episcopi*" is inserted before "*Confessoris*." The forms of his name are very various—thus: *Michanus*, *Mygghan*, *Mickee*, *Mahano*.

A somewhat remarkable feature attached to the Church of St. Michan is, that its founders dedicated the Church to St. Michan, and the south aisle to *St. Syth*, or *Osyth*, the daughter of Frewald, a Mercian prince, who married a king of the East-Angles, but the same day obtained his consent to live always a virgin. That king confirming her in her religious purpose, bestowed on her the manor of Chick, in which she built a monastery. She had governed this house many years with great sanctity, when she was crowned with martyrdom in the inroads of Hinguar and Hubba, the barbarous Danish leaders, being beheaded for her constancy in her faith and virtue, about the year 870. For fear of the Danish pirates, her body, after some time, was removed to Ailesbury, and remained there forty-six years, after which it was brought back to Chick or Chich, in Essex, near Colchester, which place was for some time called *St. Osihe's*, as Camden takes notice. A great abbey of regular canons was erected here under her invocation, which continued till the dissolution of monasteries, famous for the relics, and honoured with many miracles. The Rev. Dr. Robert Walsh, in a sermon preached by him in St. Michan's Church, on 10th May, 1891, says that:—"Some Ostmen burned and plundered the Church of St. Osyth, near Colchester, and then started for Ireland, and possibly the voyage was stormy and perilous, and conscience pricked them, . . . and that they dedicated the south aisle to St. Syth's memory." A guild, or religious corporation of laymen, formed themselves into a society called "*St. Syth's Guild*," in the fourteenth century, and possessed lands and other hereditaments in the vicinity of Oxmantown, which, in the seventeenth century, became the property of the Church of St. Michael the Archangel, in High-street, Dublin. (See IRISH BUILDER for 15th May, 1891.)

By virtue of an act of Parliament passed in England in the year 1534, King Henry VIII. was made supreme head of the Church of England upon earth, and the First Fruits of all ecclesiastical promotions were granted to him. A similar act was passed in the Irish Parliament in the year 1537, which ordained that King Henry should be styled supreme head of the Church of Ireland upon earth,

and to have the First Fruits, &c., of all ecclesiastical promotions. Also, a law was made, that no person or ecclesiastic should, upon any pretence whatsoever, appeal to Rome, under a heavy penalty.

About the same time the Church of St. Michan became one of the three prebendal churches assigned to Christ Church Cathedral by Archbishop Brown, the first Protestant Archbishop of Dublin. From that period we have two rival ecclesiastical churches: (1) the Church of Ireland as by law established, yielding her allegiance to the Crown of England; and (2) the Roman Catholic Church, subject to the Roman Pontiff.

We must now break off from old St. Michan's, but perhaps to return to it, when we may give, in future numbers of this journal, a fuller history of it.

THE PARISH OF ST. MICHAN

is, as we have already mentioned, one of the oldest parishes in Dublin; and, until the year 1697, was the only parish on the north side of the River Liffey. It extended from that river northwards, as far as little Cabra; and from St. Mary's Abbey westward, to Oxmantown Green, and contained within its area the following streets:—Church-street, Hangman-lane [Hammond-lane], Abbey Green, Osmantown Green, Mary's-lane, Fisher's-lane, Bull-lane, and a few other minor streets; and, in 1659, it contained a population, according to a Census taken in that year by Sir William Petty, of 1,173 souls. Grangegorman, Stonybattery, and Glasmanoge, now united to the city, were then villages at some distance from it.

From this time, several other new streets were formed and built on the north and east of Church-street as far as St. Mary's Abbey. These streets were: North King-street, Channell-row (now North Brunswick-street), Phrapper-lane (now Beresford-street), Greek-street, Pill-lane, Ormond Market, Charles-street, Mass-lane, Ormond-quay, East Arran-street, Boot-lane, and several minor lanes and courts; on the west side of Church-street there were also several new streets opened, and, according as the houses were erected therein, the population increased, and Oxmantown, from the salubrity of its air, soon became one of the most fashionable of the Dublin suburbs, and the parish of St. Michan one of the wealthiest in the city.

[Fisher's-lane is one of the oldest streets in St. Michan's parish, with the exception of Oxmantown Green; it is mentioned in a twelfth-century document as being the western boundary of St. Mary's Abbey. A few days ago, our attention was directed to a metal plate, fastened on the south-western corner of this old thoroughfare, on which are, in white painted letters, the words "*ST. MICHAN'S STREET*." Now, we must express our humble protest against the practice of our City Fathers in needlessly changing our street nomenclature, which, if continued, will, in the course of time, obliterate for ever many of our old city landmarks. Surely they ought to be content with the privileges which they always possessed, and confine themselves to the naming of *new* streets as they please,—but they ought to leave us our old landmarks.]

During the time the above improvements were taking place, no attempt had been made to extend that part of the city eastward of St. Mary's Abbey, until about 1676, when Sir Humphrey Jervis, a wealthy alderman of

the City of Dublin, who was possessed of a considerable part of St. Mary's Abbey estate, including the ruined abbey itself, erected a new bridge over the Liffey, which he named "Essex Bridge," after the then Lord Lieutenant, Arthur Capel, Earl of Essex. After building the bridge, Sir Humphrey, together with Sir Hugh Stafford and others, formed themselves into a company for the purpose of laying out other new streets and building houses on that part of his estate. The first street they laid out was *Capel-street*, which they also named after the same Vice-roy; *Jervis-street* and *Jervis-quay* (now *Lower Ormond-quay*), after Sir Humphrey Jervis; and *Stafford-street*, after one of his partners. Previous to opening *Capel-street*, there was no communication between the northern parts of the County of Dublin and *Smithfield*, except the *Great Northern road* from *North King-street* to *Swords*, &c., passing through *Drumcondra*, which at that time was very populous. That portion of the road from *King-street* to *Drumcondra* was then (and continued to be for many years later) called *Drumcondra-lane*, but it is now known as *Bolton* and *Dorset-streets*. The next great thoroughfare opened was *Great Britain-street*; and its continuation from *Summer-hill* to *Ballybough* was called *Ballybough-lane*. Afterwards, in rapid succession, were opened the following streets:—*Mary-street*, *Liffey-street*, *Henry-street*, *Moore-street*, *Drogheda-street* (now *Sackville-street*), *Marlborough-street*, *Dominick-street*, *Denmark-street*, and *Dorset-street*. (For the dates and original names of many of the above streets, see *Rev. Dr. McCready's Dublin Street Names Dated and Explained*.) Such was the rapid increase of population on the north side of the city, and so great the extent of *St. Michan's* parish, that, in order to give church accommodation to the inhabitants, an Act of Parliament was passed in the year 1697 (9 William III.), by which two new parishes were formed out of it, (1) *St. Paul's*, on the west; and (2) *St. Mary's*, on the east; the old parish of *St. Michan's* being still retained in its almost primitive position.

With the enormous increase in houses and population which sprung up in those new streets, a proportional increase of Roman Catholic inhabitants took place also; and a similar division of parishes for the Catholics was deemed necessary to be formed. In 1707, the Most Rev. Edmond Byrne, R. C. Archbishop of Dublin (1707-1724), by collation, dated 16th Oct., 1707, divided the Catholic parish of *St. Michan's* into three—viz., *St. Michan's*, *St. Paul's*, and *St. Mary's*,—allotting to each certain new boundaries, so as to distinguish them from the Protestant parishes, which had been marked out only a few years previously.

St. Paul's (R. C.) Parish.

The Catholic parish of *St. Paul* was the first in this new department, and is bounded on the east by *Church-street* (west side), *Glasmanogue* to *Broadstone*; north, by *Little Cabra*, and so on to the *Viceregal Lodge* in the *Phoenix Park*; and on the south by the *River Liffey* as far as the old bridge at *Church-street*. About 1708, a new chapel was erected (or rather an old stable was converted into a chapel) at the reres of the houses now known as Nos. 11 and 12 *Arran-quay*, and this was approached from *Church-street* by a long and narrow passage, recently closed up. This building, having become ruinous, was

taken down and rebuilt in the year 1785, it being provided with a new principal entrance from *Arran-quay*, through a passage under the house No. 12. (This house is remarkable in history as being that in which Edmund Burke, the great statesman, was born.) In course of time, however, the chapel was found to be wholly inadequate to accommodate the number of worshippers who frequented it, and it was deemed necessary to seek a larger site elsewhere. Accordingly, in 1835, one was procured a short distance from the old chapel, on which the present new church is built on the western side of *Lincoln-lane*, having its principal front on *Arran-quay*, and two side entrances from *Lincoln-lane*. The old chapel was converted into a school-house, and afterwards it was used as a seed stores, by Messrs. Berry. It is now converted into a bonded duty-free warehouse for wine and spirits, by Messrs. M'Ennery Brothers, of *South William-street*.

St. Mary's (R. C.) Parish.

The following are the boundaries of the new R. C. Parish of *St. Mary*, as defined in 1729:—

"THE BOUNDARIES OF ST. MARY'S PARISH, DUBLIN, A.D. 1729:—

"We, the undersigned Parish Priests and Clergy of the City of Dublin, do hereby certify that we have not only seen and read the Collation made unto ye Revd. Mr. John Linegar 16th Xber, 1707, by the Most Esteemed and Illustrious Doctor Edmond Byrne, then Archbishop of Dublin, of the parish of *St. Mary's* in the suburbs of the said city, to which Collation the Most Illustrious Doctor Edward Murphy, late Archbishop of Dublin, then our Vicar-General, and Revd. Doctor Matthew Kelly, are subscribing witnesses; but also another instrument under the hands of said illustrious Prelates of Pious Memory, and signed also by said Revd. Doctor Matthew Kelly, declareing and setting forth the bounds and limits of said parish of *St. Mary's* in manner following, that is to say, from the east side of *Boot-lane* [now *East Arran-street*], inclusively, to the entrance into *Bolton-street* or *Drumcondra-lane*, and from thence down to *Drumcondra bridge*, and from the east side of *Arran-street*, inclusively, down *Ormond-quay*, from ye corner of said street down to *Ballibought bridge*. And we do further declare to the parishioners or Catholick inhabitants within the said districts that they are to look upon the said Revd. Mr. John Linegar [subsequently R. C. Archbishop of Dublin] as their only true and lawful Pastor; and that no other priest whatsoever has or ought to claim any right, or title, to the said parish of *St. Mary's*, or to any part thereof.

"Given under our hands in Dublin this 11th day of October, 1729.

"RICHARD MORPHY.

MATT. KELLY, Parish Priest of *St. James'*, Dublin.

PATK. DOYLE, Pastor of *St. Andrew's*, Dublin.

SIMON MURPHY, Parish Priest of *St. Audeon*, Dublin.

WALTER SKELTON.

THOS. AUSTEN, Parish of *St. Nicholas* Without.

CHARLES KELLY.

VALENTINE RIVERS, Parish Priest of *St. Catharen's*."

For the accommodation of the parishioners of the new parish of *St. Mary*, a chapel was

built on an obscure site* at the rere of *Upper Liffey-street*, and about equi-distant between the reres of the houses in *Mary-street* and *Abbey-street*, and was popularly known as "*Liffey-street Chapel*." In 1797, the Most Rev. John Thomas Troy, R. C. Archbishop of Dublin, made *Liffey-street chapel* the metropolitan chapel of Dublin, in lieu of "*Francis-street chapel*," which, until that time, was the chief or metropolitan chapel. In 1826, on the opening of the *Metropolitan Church of the Conception*, *Marlborough-street* (the foundation of which was laid in 1816), *Liffey-street chapel* was finally closed.

Hence we find that a period of twenty-two years intervened between the settlement of *St. Paul's* parish and the establishment of *St. Mary's*. This delay was caused probably from fear of attracting the attention of the Government authorities to the actions of the Catholic hierarchy, at a time when the Penal laws were in full force against them; but that the making of the parish might be canonically carried out, the clergymen whose names are given above waited for the interregnum which occurred between the death of Archbishop Edward Murphy, in 1729, and the election of his successor, Most Rev. John Linegar, in same year, when the See was vacant, and hence no archbishop to be prosecuted. That this latest act of "Popish aggression" sounded the tocsin of alarm to the State, and caused the Lords Justices once more to furbish their instruments of persecution, there can be no doubt; because we find that, on the 4th November, 1731, a Committee of the Irish House of Lords issued the following circular to the Right Hon. Joseph Nuttall, Lord Mayor of Dublin, directing him to have returns made to them of the number of Popish priests, mass-houses, &c., within the city and liberties:—

"By the Lords Committee appointed to enquire into the present state of Popery in this kingdom, and to prepare such Heads of Bills as they shall think most proper to prevent the further growth of Popery, and to secure this kingdom from any Dangers that may happen from the great number of Papists in this Nation.

"Die Jovis 4^o die Novembris, 1731.

His Grace the Lord Primate in the chair.

"It is ordered by the Lords Committee appointed, that the Lord Mayor of ye City of Dublin, do, on Tuesday morning next, lay before their Lordships an acct. of all the Mass-houses that are in this city and the suburbs thereof, and which of them have been built since the First year of the Reign of King George the First; and what number of Priests officiate at each Mass-house, . . . and all Private Popish Chappells, and all commonly reputed Nunnerys and Fryerys, and all Popish Schools within the said City and Liberties. And also that the Ministers and Churchwardens of the several parishes within the said city, &c., do severally make the like returns required to be made by the Lord Mayor, in their several and respective Parishes.

"HU. ARMAGH."

In the summary of the returns made, we find that in the parish of *St. Paul* there was one private chapel and one nunnery; in *St. Michan's*, three mass-houses, two nunneries, and ten schools; and in *St. Mary's*, one

* During the Penal times, and until the passing of the Catholic Emancipation Act in 1829, the Roman Catholics were prohibited from having their places of public worship fronting any street, but they were tolerated in doing so since the passing of the Catholic Relief Bill in 1791.

mass-house, twelve priests, two private chapels, and three schools.

The following are the official returns:—

REPORT FROM ST. MICHAEL'S.

"In obedience to your Lordships' orders, we the Minister and Church Wardens of this parish of St. Michael's do make the following return:—

1st. There are three public Mass Houses in ye said Parish, one in Mary's-lane, another in Arran Key, both built, as we are informed, before the First of King George the First. The other in Church-street fitted up into a Mass House since the First of King George the First. There is also a private Mass-house in the reputed nunnery in King-street, built within three or four years.

2nd. As to the number of Priests who officiate in each or any of them, we have endeavoured to get information, but can get none.

3rd. There is one reputed nunnery in King-street, where there is a private-chappel, as we said before.

4th. As for schools, we have endeavoured to get a knowledge of them, and are informed that there are the following schools:—

A Lattin School, kept by Phill. Reily on ye Inns.

Do., by Murphy in Bow-lane.*

[now Lincoln-lane].

An English School, by M'Guire, in Church-street.

Do., by Lyons, in do.

Do., by Kearnan, in do.

Do., by Cullin, in Pill-lane.

Do., by Neal, in Hamon-lane.

Do., by M'Glaughlin, in

Phrappier-lane.

Do., by Ward, in Mary's-lane.

Do., by Burke, in do.

Do., by Gorman, in Bow-lane

W. Percival, Minister of St. Michael's.

Jas. Carson } Church

Thos. Hewlett } wardens."

REPORT FROM ST. MARY'S.

"To the Lords Committee appointed to Enquire into ye present state of Popery in this Kingdom. In obedience to yor Lordships' command, we the Minister and Churchwardens of St. Mary's parish, Dublin, have made enquiry concerning ye Mass Houses wth in ye said parish, and cannot find more than one situate in Liffey-street, behind Mary-street and Abbey-street. This Mass House was very recently erected, since ye accession of his present Majesty to the Throne, and is supply'd by the Registered Priest, and no other yt we know of.

We know of no Nunneries, Fryeries, or Popish Schools wth in ye said Parish; neither have we sufficient knowledge of private Popish Chappels wch may be in ye Houses of persons of that communion, so as to be able to make a return of them.

W. Crosse, Rector of St. Mary's.

Richd. Dawson } Church

Geo. Tucker } wardens."

[There is no official return from St. Paul's.]

The western boundary of the Protestant parish of St. Michael extends from the southern end of Church-street along Arran-quay to Lincoln-lane, thence to Phoenix-street, through the middle of Smithfield,

portion of Redcow-lane, and so continues until it joins the parish of Grangegorman at the east side of Richmond Penitentiary. Therefore it contained the three chapels and nunnery given in the above report, viz.: Arran-quay chapel; St. Michael's, in Mary's-lane; the Capuchins' chapel, in Church-street (then building); and the private-chapel belonging to the convent in Channel-row (now North Brunswick-street), where the Christian Brothers' school now stands.

(To be continued.)

HOW ESTIMATES ARE MADE UP IN COMPETITIONS.

CORK COURT-HOUSE.

THE contract is now let for re-building Cork Court-house. Out of curiosity, we turn back to the assessor's report on the competitive designs, dated October 2nd, 1891. We find the author of "Fiat Justitia," the successful competitor, very confidently stating the cost, according to his plans, at

£15,000.

We find the assessor,—taking an independent view of his own,—estimating the cost of the same design at

£23,000.

And the contract is now let to Mr. S. Hill at

£24,955 l

At page 8 of Mr. Drew's report, he honestly warned the joint committee that "they should be prepared for an expenditure of £25,000, at least."

We remember that local papers and correspondents roundly took the assessor's figures to task, as being extravagantly mistaken; and the excuse was kindly offered that, as a mere Dublin man, he could not be expected to know anything about Cork prices! For a mere Dublin man, it appears to us he was not so wide of the mark, after all.

SALE OF THE ALTHORP LIBRARY.

EARL Spencer has, it is said, commissioned Messrs. Sotheby, Wilkinson, and Hodge (London) to sell the Althorp Library, and unless the collection is previously disposed of *en bloc*, the auction will take place next year. It is not, says the *Times*, without a keen feeling of regret that we make the announcement that Lord Spencer has resolved to sell the famous Althorp Library. Agricultural depression and low prices have made themselves so severely felt by nearly all the great land-owners of the country, that no announcement of the kind is now received with much surprise; but none the less it is permitted to be sorry for the hard necessity which commands the dispersal of the finest private library in the world. To enumerate even the principal treasures of the Althorp Library would require several columns; but we may just touch upon a few of those that have given it its title to fame. The block-books, printed before the invention of movable metal types, are nine in number, besides the celebrated block-print of St. Christopher, which bears the date 1423. The list of early Bibles fills a hundred pages of Dibdin, and opens with a superb and quite perfect copy of the Gutenberg (so-called Mazarin) Bible, the first important work of the inventor of printing, in the accepted sense of the word. Still rarer is the copy of the Mentz Psalter of 1457, printed on vellum and finely illuminated. It was another copy of this almost unique book that was sold a few years ago, for the unprecedented price of close upon £5,000. There are copies innumerable of the first editions of Greek and Latin poets, orators, and historians, whom Italian scholarship and German skill in printing gave to the world during

the next half century. No less remarkable is the collection of Aldines, which numbers no fewer than 610 volumes, fifteen of them on vellum. Here are the complete "Aristotle," the Virgil of 1501, and the first book printed in the "Italic" type; and the Dante of the next year, rare in any state, but rarest of all on vellum, as this copy is. Of books printed in Spain and France there is no lack. But to English people the great interest of the library will probably be found to consist in the series, entirely unapproached in any private collection, of the books printed by Caxton. One Caxton distinguishes a library; half-a-dozen make it illustrious; but what shall be said of a collection which contains fifty-seven? According to Mr. Blades, there are 99 known productions of Caxton's Press; the British Museum contains 81, of which 25 are duplicates. Thus the Althorp collection is really one in advance of that in the Museum; and of the 57 there are 31 that are perfect, and three of which no other copies are known to exist.

A MONSTER ROLLING-STOCK AND RAILWAY PLANT.

THE assistant locomotive superintendent of the southern division of the Midland Railway of England, contributes to the *English Illustrated* an interesting article regarding the company's locomotive works at Derby. The following is an extract:—

"Some idea may be formed of the amount of work carried out in the locomotive and carriage factories by remembering that in them is built and repaired the great bulk of the rolling-stock owned by the company, which comprises 2,150 engines, 4,389 carriages, 104,908 waggons. If these were marshalled in a continuous line close coupled, they would form a passenger train 34 miles long with six miles of engines, and a goods train 370 miles long with 13 miles of engines, or altogether one train 404 miles long, including 19 miles of engines, which would reach from London to Edinburgh. The locomotive department is presided over by Mr. Samuel Waite Johnson, who is in command of an army of 12,500 men. About 8,500 of these are drivers, fire-men, cleaners, and mechanics, stationed at eighty locomotive engine sheds at different places on the line, many of which have large workshops attached. Mr. Johnson has under his control 2,150 locomotives, 258 stationary engines, 235 stationary boilers, 787 hydraulic machines, 393 cranes of every kind. He is aided in the administration of his department by a works manager, two assistant superintendents (one over the southern and the other over the northern division), 33 district superintendents, a secretary, a gas engineer, and other officers. Nearly 4,000 men are employed in his department at Derby. 22 stationary engines, total 2,400 horse-power, drive the machinery in the workshops. On the average 40 new engines are built in the works every year, 120 rebuilt with new boiler, and from 750 to 800 undergo heavy repairs. An engine will run eighteen months or two years with slight repairs; the boiler, which is the most costly item, lasts on an average fifteen years, or it would probably be worn out after the engine has run from 350,000 to 500,000 miles."

A MONSTER ENGINE.—The chief motive power for the machinery at the Chicago Exposition will be supplied by a gigantic engine, to be furnished free to the Exposition by the E. P. Allis Company, of Milwaukee. The engine will be furnished as a part of the company's exhibit, upon a special contract providing that it shall be used for the motive power, and that no other engine of equal size shall be exhibited. It will be an engine of the quadruple expansion type, and will be of between 3,000 and 4,000 horse power. Compared with this engine the big Corliss that was exhibited at the Centennial Exposition is almost a dwarf. In 1876 the Corliss was considered one of the wonders of the exposition, but its builder rated it at only 1,400 horse power, or less than half of the one being built by the Allis Company.

* "Bow lane" was originally the name of the thoroughfare from Arran-quay to May-lane, and from May-lane to North King-street was called Loughboy. In 1776, the southern end was named Lincoln-lane, and from Hammond-lane to King-street was styled Bow-street.

NEW PARCELS POST DEPÔT, AMIENS-STREET.

THE illustration which we publish to-day is a reproduction of a pen-and-ink drawing, exhibited in this year's Exhibition of the Royal Hibernian Academy, by Mr. Howard Pentland, Bac. Eng., F.R.I.B.A., Chief Surveyor to the Board of Public Works. The building, which is being pushed on vigorously by the contractor, Mr. Samuel Worthington, is at the corner of Amiens-street and Preston-street, adjoining the junction of the Great Northern Railway and the Dublin Junctions Railway. The position is a most central and convenient one for the English and Irish traffic, and has been necessitated by the great increase of the Parcels Post business within the last few years. The portion of the work in Mr. Worthington's hands will cost some £9,000. Specifications have been prepared, and tenders invited for the hydraulic accumulators, lifts, and other plants, and others will shortly be invited for an electric light installation. The whole expenditure is estimated at some £16,000. The Amiens-street façade is devoted to offices, while the rear is occupied by the stores, engine, and hoiler-houses, van yard and sorting office, the latter having a steel roof of 70 ft. space, out of which is slung the basket gallery. A pair of steel Cornish boilers will supply the steam for both the hydraulic and electric plant, and the parcels will enter and leave the Depôt by a bridge over the line connected to the several platforms by hydraulic lifts. The building will be faced externally with best quality Portmarnock bricks, with dressings of Skerries limestone, and plastered internally with Bloomfield and Co's plaster.

THE RATHMINES WATER-WORKS AND THE MILL-OWNERS.

A SPECIAL meeting of the Commissioners was held on the 29th ult., for the purpose of appointing an independent engineer to inspect the works at Glenismole, and to advise as to the best means of carrying out the alterations necessary to meet the recent decision of the English Court of Appeal that the works were not constructed in accordance with the terms of the Act of Parliament.

Mr. EDWARD FOTTELL, J.P., presided.

The Clerk read a letter from the solicitors to the mill-owners, in which it was stated that they did not see that any advantage could follow a conference between them and the board; but, at the same time, they would be quite willing to give the Commissioners every assistance in their power, in order to have the works directed by the act constructed, whilst preserving their legal rights.

Mr. Beckett moved that Mr. Hill, engineer to the Manchester Water-works, be engaged to advise generally.

Mr. Bolton seconded the motion.

Mr. Shannon moved an amendment:—

That in the strained condition of the ratepayers, from the results of the deviation made in the Parliamentary plans of 1880, it is not expedient to incur the heavy charge of an English engineer to visit the water-works, and afterwards to attend the sittings of a committee of the House of Commons as a witness; but it is expedient now to refer it to our engineer to examine the works, and report fully on the necessary alterations required by the injunction and the judgment of the House of Lords on the deviations.

He objected to the employment of an English engineer, at an enormous cost. Mr. Hill would charge the usual scale of professional fees, and he might double his charges if he had to attend a committee of the House. Their own engineer was thoroughly acquainted with the water-works.

Mr. Beckett asked whether it was as a result of consultation with their own engineer that the board had decided on procuring further engineering skill.

The Chairman said they had had warm discussions with their engineer. He was not going to compare him with any other professional gentleman, but it was necessary that they should have an independent engineer.

There being no seconder to the amendment, it was declared lost.

Surgeon General Gunn said he would have been willing to second Mr. Shannon's amendment, but he had gone into the matter, and felt that it would be unreasonable, and out of the ordinary course, to employ their own employé in the matter, and they were bound to have some independent engineer. He quite agreed with the original resolution.

Dr. Ward said that Mr. Shannon had stated that they were going to employ an engineer at enormous expense. The expense, however, would be very trivial.

The Chairman said it would be absolutely necessary to go to Parliament, and they should have an engineer for the purpose. Mr. Dixon, their own engineer, would not do to go before the house, because it might be said the Commissioners were bringing up their own employé.

After some further discussion, the original resolution was adopted.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 140.)

ASSUMING ancient Leix to have been commensurate with the present Queen's County, it was bounded on the north by the King's County, and largely by the River Barrow, along that line; on the east, the same river also separated it from the County of Kildare, except in a small north-eastern portion, where that county protruded beyond it towards the west; still lower, on the east and south-east, is the County of Carlow, beyond the River Barrow; on the south, it is bounded by the County of Kilkenny; while on the west, the County of Tipperary lies towards its south-western line, and the King's County more northerly bounds it—the range of Slieve Bloom Mountains specially marking the latter division as a natural boundary. The Queen's County extends from 52° 46' to 53° 10' north latitude, and it reaches from 6° 56' to 7° 48' west longitude from Greenwich Observatory. As in the ancient times of Leix, so at present, the county is attached to the province of Leinster.

The shape of this entire district is very compact and regular; the east, south, and west boundary lines being nearly equal to one another, while the north line is considerably smaller—thus presenting the figure of an irregular square. The longest straight line, that can be drawn within its limits, extends 36½ miles south-westward; the next longest extends 35½ miles south-eastward; the longest that can be drawn east to west is 32 miles; while the longest that can be drawn due southward extends 26½ miles. The area of the entire county contains 342,422 acres of arable land; 69,289 of uncultivated land, 11,630 of continuous plantations, 1,117 under towns, and 396 acres are under water. In all, the county comprises 424,854 acres. The chief mountain ranges are those of Slieve Bloom, extending from the north to the south, and on the western boundary, as also Slieve Marigue along the extreme south-western line. These are of irregular width

and hearing, but on the Queen's County side their surfaces, although broken and uneven, are for the most part productive. They have extensions, likewise, of lesser altitude, and independent of those are the Cullinagh and Fossey ranges of mountains. Several minor ranges of hills and of isolated limestone eminences give an appearance of picturesqueness to the scenery. From the summits of these are many charming prospects; and, in several instances, the views extend to vast distances over the great midland plains of Ireland.

The scenery throughout the whole district is pleasing and diversified; and, on the whole, the land has been kept in a good state of cultivation, while several beautiful mansions and demesnes are to be seen, with a variety of improved farm-houses and out-offices.

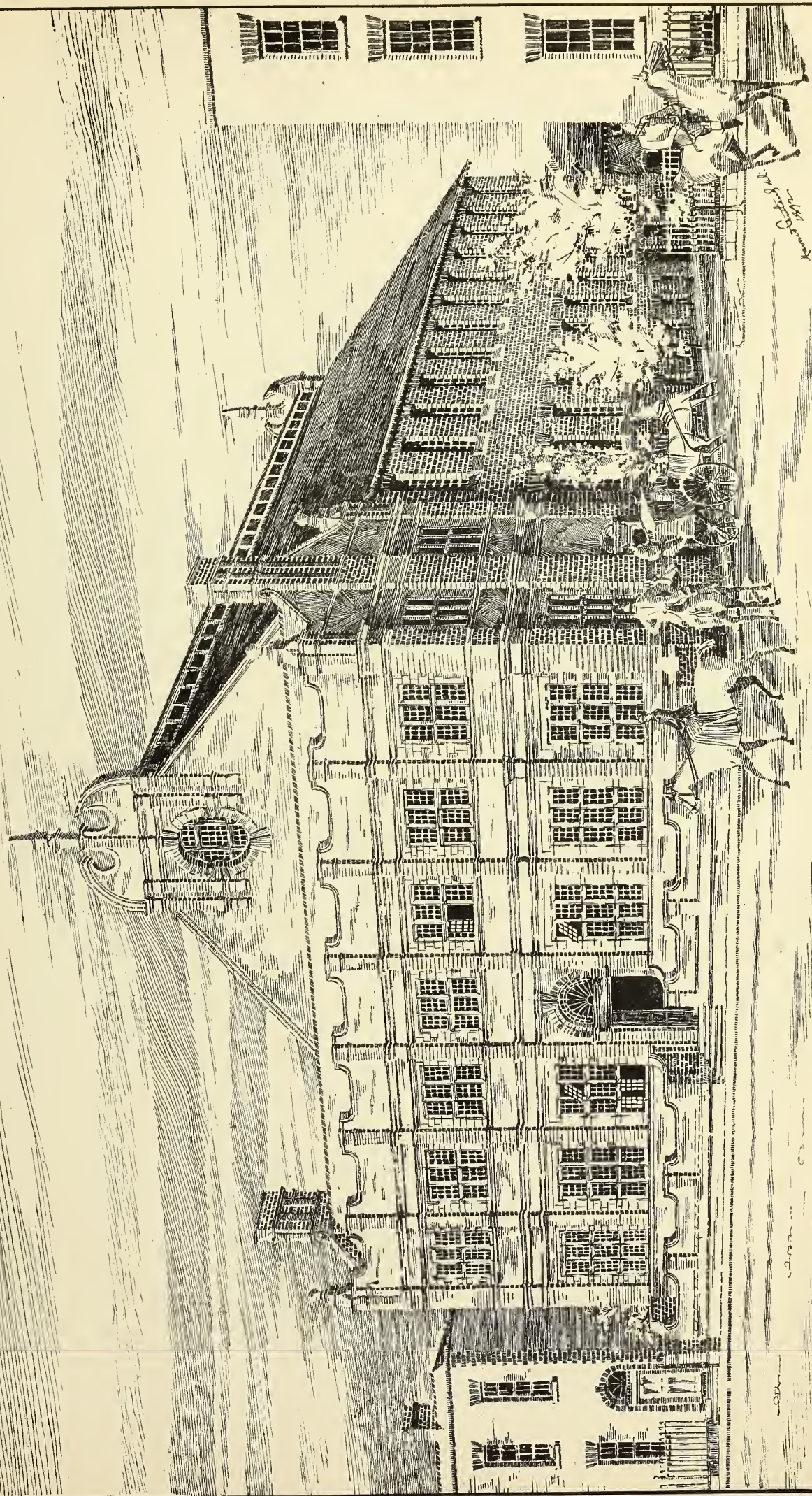
The bogs, which spread over some districts, contain large tracts, especially in the northern and middle parts; but, they have been of late years so much cut away for cheap and useful fuel, while the remainder has been reclaimed for meadow or tillage, that their limits have been greatly circumscribed, while their dun and heath-covered surfaces are by no means dreary or monotonous to the eye of the traveller. It has been remarked, moreover, that they are quite free from the malaria arising from the fens and marshes of England. The strongly-astringent quality of those bogs is a proof of their being antiseptic and non-putrescent. Trees have been found beneath them at a great depth, and for ages the bogs have been gradually growing over them; still the trees are in a high state of preservation, and the timber is perfectly sound. Moreover, the remains of human beings and of irrational animals, that have been buried there in times unknown, have yet retained their shape and features, but embrowned from the action of the bog water. Exhalations arise from the bogs occasionally, owing to the warm rays of the sun, and especially towards evening; yet, these affect not the health of natives living in the vicinity. Nay, more: several instances of robust and healthy constitutions and cases of remarkable longevity serve to show, that moisture proceeding from our bogs is not prejudicial to health.

The Barrow is the longest, widest, and deepest river in the county; while, for a considerable portion of its course, lumber boats carrying heavy freights ply on its waters, especially from Athy to Carlow, and downwards to New Ross, where steamers and sloops, are found to reach Waterford. Gathering its confluent in the barony of Tinnehinch, the Barrow takes a sinuous eastward course in the plains beneath the Slieve Bloom mountains, and a little north of Mountmellick, it receives the Owenass stream, which flows through that town. Near that point, also, it forms the boundary line between the King's and the Queen's County, flowing through a level district of country on towards Portarlington, until it enters the County of Kildare and onwards to Monasterevan; it thence turns southwards, and proceeds through a flat surface of country, through callow meadows and marshes, which are often greatly flooded, especially in the winter months, or when heavy rains prevail in the Slieve Bloom Mountains. In the upper glens and water-courses, the waters are precipitated over rugged beds of sandstone rocks and boulders, and sometimes through steep gorges over limestone gravel. Afterwards, the waters spread out and move slowly through the level plains, where they become sinuous, and in places they are deep, while in others they are fordable. However, along the champaign courses are high banks and hills, woods and demesnes, as also cultivated and pasture fields, to form a succession of highly-pleasing and beautiful landscapes. The Little Barrow

1 See "Parliamentary Gazetteer of Ireland," vol. iii., p. 97.

2 Such is the actual measurement, according to the Irish Ordnance Survey. It is evident, Sir Charles Coote, who wrote in the beginning of this century, under estimates the area, even taking the Irish measurement which then prevailed: "The gross number of acres in this county make up 235,300 or 367 square miles, but only 164,526 of these acres pay county cess, and are rated as profitable ground in the county book; so that there would remain 70,774 acres of bog, mountain, and waste lands, but this being the old estimate we may fairly conclude, that 30,000 acres would be too high a calculation of waste, or lands now remaining unprofitable; such rapid strides towards improvement have steadily been made here of late years, and the value of reclaimed bog is now so generally understood."—"General View of the Agriculture and Manufactures of the Queen's County," chap. i., sect. 1., pp. 1, 2, Dublin, 1801, 8vo.

3 The Barrow Navigation Company, chartered by an Act of the Irish Parliament, expended nearly £12,000 before the year 1811 in building locks and dams, as also in cutting short canals to improve the navigation of the river, and up to 1835, the sum expended was £177,852. In the year 1800, the tonnage was 19,828 tons, and the amount of tolls was £1,405. In 1835, the tonnage was £66,954, and the amount of tolls £4,666. Of late years, the traffic and tolls have very considerably diminished.



✦ NEW PARCELS POST DEPOT, ✦

AMIENS-STREET, DUBLIN.

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and its tributary the Feagile join in the vicinity of Monastreavan, and various other streams unite as the Barrow flows southward. It abounds in fish, especially salmon, towards its mouth; but, of late years, the supply of fish has been greatly diminished, and this stated to have been occasioned, chiefly owing to an increase of pike in its waters, and that species is well known to anglers, as being most destructive among the more valuable products of the finny tribe.

(To be continued.)

THE

ILLUMINATION OF LIGHTHOUSES.

WITHIN the past half century, and particularly within the past two decades, rapid strides have been made in the means of lighting our coast beacons, largely due to the genius of Mr. John R. Wigham, and at the present time it may be regarded as settled that we have almost arrived at the *acme* of perfection, albeit it may be open to question whether all the lighthouses and lightships around the British Islands have been supplied with the best apparatus for warning the mariner of his whereabouts. The latest development in this matter is Mr. Wigham's new "Intensity" lighthouse burner, an exhibition of the power of which was made on the evening of the 14th ult., through the giant lense, about which an interesting paper was very recently read before the Royal Dublin Society. This lense is situated in the experiment house, a little to the west of the Howth Bailey Lighthouse. Shortly after 9 o'clock the experiments began, a number of prominent engineers being present. The flashes were extremely brilliant and the power of the light far exceeded that of the Bailey, which during the tests was working at full fog power. The experiments were witnessed by the Commissioners of Irish Lights, from their steamer the Princess Alexandra, which during the time lay between Kingstown and Howth. It is believed that the "Intensity" burner is capable of showing a ray that will penetrate the thickest fog, a matter which is of incalculable importance to shipmen who, when the greatest enemy to safe navigation lies over the face of the water and obscures the friendly beams of the lighthouse, face the risk of running ashore, or being dashed to pieces on the rocks and cliffs that so plentifully gird-in our islands. Much importance is attached to the experiments above alluded to.

THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.

THE second annual general meeting of above society took place on the 6th ult., in the Town Hall, Kilkenny.

The Rt. Rev. WILLIAM PAKENHAM WALSH, Bishop of Ossory, in the chair.

There was a large attendance of members present.

The Chairman, in opening the proceedings, said—I cannot take the chair without expressing what I not only feel as my own, but the unanimous regret of all present, that our noble President, Lord James Butler, is not amongst us, connected as he is with this place, and still more so with this association for so many years. I believe he was present at the foundation of this society, and he certainly had taken a life-long interest in all its proceedings. We regret his absence, because we fear his advanced years render him less capable of travelling long journeys, which accounts for his absence. Perhaps you will allow me to convey to him your feelings on this subject, and express to him our gratitude for his deep interest in this society at all times, and our earnest wish that the evening of his days may be bright and happy. I am sure if the good Mayor of Kilkenny were in the chair—he could speak with that authority on the subject which I cannot—he would tell you how welcome you are to the

old city of Kilkenny—the city which has seen the birth of the association, and in which it has been nurtured by the Butlers and the Prims of this ancient county, and the county and city rejoice to know to what a noble manhood and dignified position your association has arrived at—one not alone the admiration of the literary people of Ireland, but that of antiquaries and antiquarian associations throughout the world. It would not become me, as vice-president of the society, to speak to you of what has been done; but we have done a great deal, especially towards the illustration of your history, and I think we have done a great deal to interest people in the history of their native land—and in that way increase their attachment to it. I am sure for myself, I feel more interested in its past, and more hopeful in its future, in consequence of my connection with this institution. I can only conclude now by reminding you that there is a great deal to be done, and by calling on the secretary to read the minutes of the last general meeting.

The minutes of last general meeting, held in Dublin, were read by the honorary secretary, and confirmed.

The honorary general secretary (Mr. Robert Cochrane) said—As arising out of the reading of the minutes, with reference to the vacancy of the vice-presidency of the Ulster district, caused by the death of the Bishop of Down, Connor, and Dromore, the council had decided that the vacancy should be filled, and that Mr. L. M. Ewart, M.R.I.A., was mentioned as a gentleman who would be a suitable successor to the late Dr. Reeves.

Rev. D. Murphy, Dublin, said Mr. Ewart was highly recommended by their council. He had taken a great interest in the work of the society; and even in his position, if he did nothing but countenance us, he would be of great advantage to the society. The matter had been discussed at great length, and it was more than unanimously decided by the council that he should be appointed, and he (the speaker) therefore begged to propose him.

Colonel P. D. Vigors endorsed every word that had been said of Mr. Ewart, and pointed out he was a most suitable person to be appointed vice-president. He seconded Mr. Murphy's proposition.

The resolution, being put to the meeting, was carried unanimously.

The general secretary pointed out that the Belfast meeting had been fixed for August 2, but afterwards it was ascertained that the British Association's annual meeting would take place on the 3rd of that month, and it was feared that meeting would clash with the Antiquaries' meeting, as members of the latter society would go over to Edinburgh to the British Association meeting, and a number of gentlemen in Belfast asked to change the meeting from the 2nd August to the 16th August. Council recommended the change to be sanctioned, and it was for the meeting at present to do so.

Chairman—What day will that be, Mr. Cochrane?

Mr. Cochrane—Tuesday; and it is proposed to fill up the remainder of the week by excursions.

It was decided to comply with the recommendation of the council.

The secretary stated that the Council of the Royal Society of Antiquaries of Ireland had invited the Royal Archaeological Institute of Great Britain and Ireland to hold their annual meeting for the year 1893 in Dublin. Though a formal acceptance of the offer had not been received, it was understood that that very important and influential Archaeological Society, having its headquarters in London, would visit Dublin next year, and the council wished that their action in requesting that body to hold their annual meeting in Dublin in 1893 would be endorsed by the general meeting.

A resolution expressing accordance with the action of the council was passed.

The audited statement of accounts showed that the money charge of the council was

£1,145 14s., and the discharge £896 5s. 10d. leaving a balance in favour of the society to the amount of £249 8s. 2d.

Mr. G. D. Burtchaell (assistant secretary), in moving the adoption of the auditors' report, commented on the satisfactory condition of their finances, and pointed out that all the fellows and members paid their subscriptions with great regularity. In the commencement of the year there was a considerable sum in arrears—about £130. Of that the council considered about £60 irrecoverable. They struck off the names of those who had failed to pay up. At the same time, if those members discharged their debts, they would be eligible for re-election. The number of members had increased very much. The council were very anxious to spend as much as possible in bringing out the journal, and in a manner which would render it very valuable, and place it in a position to compete with that of any other antiquarian society in existence.

Alderman Coyle seconded the adoption of the report.

The Chairman, having referred to the flourishing condition of the society, declared the motion carried unanimously.

Mr. Creighton, F.R.G.S. (Hon. Curator), read an interesting paper, entitled "Notes on the Museum."

A vote of thanks to the chairman concluded the meeting.

[The above report was in type for our issue of 15th ult., but space could not be found for it—ED. I. B.]

NOTES OF WORKS.

The Ballycastle Sanitary Authority at its last meeting considered four tenders sent in for erection of four labourers' cottages in the electoral union. James M'Auley, Tromra, near Cushendall, offered to do the work for £347. This being the lowest tender, he was informed by the board that the architect's estimate was only £306 16s., and they would give him the contract at no higher amount, or the guardians should re-advertise. Mr. M'Auley finally agreed.

The new Magdalen Asylum at Waterford, the foundation-stone of which was laid last month by the Most Rev. Dr. Sheehan, will be a fine structure when completed. The building, which is being carried out by Mr. John Hearne, Waterford, from the designs and under the superintendence of Mr. W. H. Byrne, architect, Suffolk-street, Dublin, consists of a central block 92 ft. long by 32 ft. wide, two side wings 71 ft. long by 27 ft. wide, and a staircase wing at back giving access to the different floors up a wide and easy staircase. The different apartments have been kept as lofty and spacious throughout as possible. It is also proposed to build a chapel for the institution, the plans for which have been already prepared; it will be Romanesque in style, and an ornament to the present group.

A handsome memorial window has just been completed by Messrs. Earley and Powell, of the Camden-street Works, Dublin, in the parish church of Donaghadee, near Belfast. It is erected to the memory of the late Mrs. Delacherois, of the Manor House, Donaghadee, by her immediate relatives. The deceased lady was much beloved and respected in the neighbourhood, and took a leading part in all the local charities. A memorial clock in the church tower is now in course of preparation, the result of the movement which has been warmly supported by the townspeople of all persuasions. The new window represents the Ascension, and, being of artistic design and admirable workmanship, reflects much credit on the well-known firm. The cut-stone work is from the Dungannon quarries.

GREAT THOUGHTS, for July.—There are features of special interest in this issue of "Great Thoughts" which commend it to readers everywhere. It is cheap and interesting.

IRISH MOATS AND RATHS.

THE Irish moats or raths were very numerous in former times, but during the lapse of centuries, and owing to the process of agricultural arrangements, thousands of those erections have now disappeared. It is probable, that even so many have been left, as a consequence of the superstitious reverence or fear felt by the peasantry to remove them. They are still to be found in every part of Ireland. Those earthen raths are also called forts.

These ancient enclosures often consisted merely of a slight circular entrenchment, the area of which is but barely raised above the level of adjoining fields. In most parts of the country, those raths are of circular form where they have not been partially destroyed. They are usually elevated enclosures, within a deep ditch surrounding them. Generally a high mound, topped with aged and thick hawthorns or other bushes, encompasses that space within the outer ditch. All known indications and traces assure us, that these were intended for defensive stockades against the encroachment of cattle and other animals, and mostly were dwelling-houses built within them. No doubt, the bushes grown on their ditches were regarded as useful for the shade and shelter afforded to the shieling, which had been there erected; while those enclosures were certainly more ornamental, as general features of the landscape, than are those tasteless modern fences around huts and their gardens attached, which too frequently disfigure at present the sides of our public roads.

Most frequently the moat presents the appearance of a steep mound, which is generally flat at the top and strongly entrenched with a high-breasted ditch, and below this is seen a well-defined trench. These outward defences enclosed a space of inner and elevated ground, upon which the houses of people occupying the adjoining lands anciently stood. The celebrated dun or fortress at Downpatrick, was formerly called Rath Keltair. It affords an excellent idea which typifies the general appearance of the more remarkable specimens of the very ancient fortresses of our Irish chiefs. The upper part of the mound was occupied by the fortress or dwelling of the king or potentate, who held it as a defensive position.

When the rath consists of a circular enclosure with an elevated platform, excavations have often brought to light very curious and irregularly-shaped cavities, lined with uncemented stones. These are often connected by passages sufficiently large to admit a man. Such chambers were probably used as places for temporary concealment or retreat, or, as would seem more likely, as store-houses for provisions. The largest and most elevated mounds do not seem to contain chambers.

In nearly all cases the great strongholds or regal residences were built on considerable elevations; especially where they had not been isolated by the waters of a lake or river. Such positions were selected as well to secure a defensive stronghold, as to give a pleasing view of the immediate or remote scenery, as also to command the low-lying neighbourhood of the chief's grounds or possessions.

The grandest, as it was the most celebrated royal fortress in Ireland, was that which formerly crowned the famous Hill of Tara, previous to the sixth century of our era.¹ Then, it is said to have been des-

troyed. However, several earthen mounds, under many of which are stone foundations, still remain on the summit of that historic site.

About the beginning of the present century, two magnificent gold torcs or collars, the finest specimens of the kind in Europe, were found in the trench of one, among the raths at Tara, in the County of Meath.² Probably these were worn on the necks of some among the chiefs who frequented that pristine fortress, and they may have been lying within that entrenchment for more than a thousand years. The beautiful Tara brooch, now preserved in the Royal Irish Academy, was found near the sea-shore,³ and it was bought for a mere trifle by a watchmaker in Drogheda, who subsequently sold it to the Messrs. Waterhouse, jewellers, of Dublin.⁴ This is a priceless specimen of exquisitely beautiful Celtic art-workmanship, having interlaced carving wrought in the most minute and intricate manner over both sides of its surface.⁵

PEMBROKE TECHNICAL AND RINGSEND FISHERY SCHOOLS.

On the afternoon of Monday, the 20th ult., the ceremony of laying the first stone of the new schools at Ringsend was performed by the Earl of Pembroke, upon a site at the corner of Cambridge-road, given free of rent by his lordship, besides a large contribution towards the building and furnishing expenses.

The building will be faced externally with red pressed brick, and covered with green Buttermeau slates. The entrance will be at the centre of eastern façade looking towards the mouth of the Liffey, and will be surmounted by a tower which will form an attractive feature. The large assembly-room is situated on the first floor, and will be approached by a broad staircase leading off entrance-hall. This room will afford ample seating accommodation for 300 persons, independent of the platform. Besides it there will be a retiring room approached by a private staircase. On same floor two large class-rooms are arranged. The ground floor contains a science class-room 32 ft. long by 16 ft. wide, a drawing-class room of the same dimensions, a board-room, and another class-room, a store-room. A suite of caretaker's apartments are also arranged on the same floor. Particular attention has been paid to the sanitation of the building. The drainage is designed upon the most modern principles, whilst as regards warming and ventilation it is proposed to adopt Grundy's patent system of heating with hot air. The amount of the contract for the complete building, including plumbing, heating, painting, and gas-fitting, is under £4,000. The contractors are Messrs. Collen Brothers, Portadown, and the architect is Mr. Kaye Parry, M.A., of 35 Dame-street.

Previous to the ceremony, a meeting was held for the presentation of addresses to the Earl and Countess of Pembroke. The first address, from the fishermen, was read by Michael Dalton. It stated that—

On this memorable occasion, when an undertaking in which we take the deepest interest, and which we fondly trust is destined to procure many advantages for the people of our locality, the fishermen

of Ringsend specially desire to address you in words of warmest welcome, and to assure you of the cordial and respectful feelings they entertain for their distinguished visitors. Honoured by your presence on this day, it affords us very great pleasure to assist at the ceremony of laying the fountain-stone on a site in every respect most suitable and convenient for the erection of the new Ringsend Technical Schools. We are also quite conscious that humble as may be our position in the community at large, while engaged at our peculiar avocations as toilers on the sea, every opportunity that offers a prospect of securing advantages and of industrial pursuits, commends itself to our sympathies and approval, while we feel most grateful for the generous purpose that originated such a project, and for that effective aid which already gives assurance of happy results. To the Earl of Pembroke and Montgomery we are indebted for this kindly thought to improve the moral and social condition of our people, as also to foster or revive industries in our neighbourhood, and which once flourished, even in the recollection of many here present. We have an earnest desire to co-operate in every way that lies within our power to assist in the good work, as the best return we can make for such benevolent intentions. We feel assured, moreover, that every effort will be made to place those schools on a proper basis, both in the direction and administration of their scientific and economic working, with a view of having them useful and practical for the classes of students they are chiefly designed to benefit.

The second address was read by the Rev. Canon O'Hanlon, P.P., and is as follows:—

We, the residents of Ringsend, Irishtown, and Sandymount, take the occasion of your being present to lay the foundation-stone of the new Technical Schools for Ringsend, as a suitable opportunity for expressing our deep sense of gratitude for the noble generosity which led you to give not merely a free site for these schools, but £4,000 as well for their erection. Such a gift shows the interest your lordship and Lady Pembroke take in everything which concerns the welfare of the working, wage-earning class, and how anxious you are to benefit and help them. Schools for technical instruction have for many years been established in other countries, and have proved most useful, we understand, in France and England. We trust the same good results will follow their establishment here, and that the rising generation will largely and continuously benefit by them. The want of such schools as these about to be established in Ringsend had long been felt; but difficulties lay in the way—lack of funds, and there being no one to take the initiative. Your lordship's foresight and noble generosity have cleared the way, and the difficulties have been removed. We rejoice to think of all the good these schools will do in the future, and pray fervently that you and your noble lady may long be spared to see the good result, and to receive the gratitude and blessing of all interested in the welfare and happiness of our beloved land and people. We cannot conclude without also expressing how thankful all feel to your lordship for the grant of land, free of rent, which has been given for the erection of artisans' dwellings—a much-needed improvement in such a densely-populated village as Ringsend. We augur the happiest results from the better housing of the poor.

Other addresses having been read, the Earl of Pembroke said—

I beg to return, on behalf of her ladyship and myself, our heartfelt thanks, first for the welcome you have given us here to-day, and then for the addresses that have been read, so friendly and flattering in character—the first address from the fishermen of Ringsend, and then the address from the inhabitants of Ringsend, Irishtown, and Sandymount, and again the address from St. Matthew's Christian and Burial Society; and, lastly, the address from my young friends of the National school. You have expressed feelings of gratitude for what I have done in this matter with such kindness, that I cannot help thinking them sincere; and I venture to tell you that the return that would most please Lady Pembroke and myself is, that when those schools are built, you should make full use of them. Now, it may, perhaps, not be inopportune if I take this opportunity of saying in a few words how all this came about, and what the history of it is. When I was over here last autumn, your parish priest, your schoolmistress, and other people, talked to me about the state of Ringsend, and deplored the decay of industries there; and Father Mooney, I think it was, who said to me that he wished the Baroness Burdett-Coutts would do for Ringsend what she was doing for other places. I thought over the matter. I was willing to do something, if something could be done, and various things were proposed; but I could not, however,

¹ See Dr. George Petrie's learned "Essay on the History and Antiquities of Tara Hill."

² They were sold to the former Duke of Sussex, in whose collection they formed the most interesting objects of their kind. After his death, and when his collection was sold, they were purchased and presented to the Royal Irish Academy, where they are still preserved in its Museum of Celtic Antiquities.

³ By some children, on the 24th of August, 1850.

⁴ These gentlemen afterwards sold it for £200 to the Royal Irish Academy, and they have given a full description of it in a small work intitled, "Antique Irish Brooches," by Waterhouse and Co., Dublin, 1872.

⁵ Two elegant and correct wood engravings, from a drawing by Mr. Llewellyn Jewitt, may be found in that very interesting work of Joseph Anderson, "Scotland in Early Christian Times," second series. Lecture I, pp. 17 to 20, and note 1, *ibid*.

see my way for some time to do anything practical, because a man, especially if he is not a man of business, will find the effort to revive businesses that had died a natural death, a desperate enterprise to enter upon. I did not see my way to revive the sail-making or net-making industry in a direct manner. At last Mr. Vernon said that the thing could be best done by instituting a Fishery and Technical School combined. On thinking the matter over, I came to much the same opinion; and Mr. Vernon and Mr. Graves laid their heads together, and have evolved the scheme which is now before you, which you now know about. To use an American expression, it caught on. The Pembroke Town Commissioners met us in a most handsome manner. Several other people offered to subscribe; and we then went to Mr. Jackson, to the Irish Office, and though of course it was not possible for him to promise a Government grant to a building that was not yet built, yet his attitude was extremely encouraging to us. That is the history of it. We have now arrived at that stage of proceedings to which the building of the schools would be the next step. I don't intend to give a complete list of things to be taught in these schools. In all probability those who manage them will find that they will have to change their plans more and more as they go on, and learn from practical experience; but, speaking roughly, the idea is, in the first place, to have fishery schools, and then to have technical instruction in such things as sail-making and net-making and basket-making, and perhaps boat-building and things of that sort. There is one thing the teaching of which is of special importance, and that is, navigation. People sometimes ask what it is that a man could learn at a technical school which he cannot learn naturally in the course of his trade. Well, navigation is one, at any rate. A fisherman does not learn navigation naturally in the course of his trade. I will tell you why it is not nearly so well known as it ought to be. There is no trade in which men rise from the ranks so often as in the sailor's trade. I have got no figures to quote about this, but the proportion of men who rise from before the mast to be captains and mates, must be enormous. In the smaller class of vessels considerably more than half do so rise. In my own small experience I have known dozens of men who have risen from the bottom of the tree to be commanders of vessels. My good captain, who is here to-day, was a fisher boy and the son of a fisherman, and a most excellent navigator he is; and the captain I had in the South Seas when yachting there, he too is the son of a fisherman, and began life as a fisher boy. I was talking to my captain last night, and was asking him about two men whom we had on board the yacht, and I wanted to know what had become of them. "Oh," he said, "both have become mates, and one of them has passed his examination by the Board of Trade." I only say all these things to prove that an immense number of men rise to be officers from before the mast—in fact, those men rise more frequently than do men in any other trade or profession; but still a great many stick at a certain point, and don't become more than mates or masters of small vessels, because they have had no opportunity of learning how to navigate. It is really extraordinary that so many of these men learn navigation—as so many do—with the small facilities afforded them; and it cannot be doubted that many would rise to command large ships, if they had only better opportunities of learning navigation as fisher boys. It would be an excellent thing if more of them could rise, because men like yourselves make much better captains of ships than many men who command ships now, who are only half-sailors, and owe their commands to a large extent to the fact that they have enough scholarship to enable them to take a vessel from one part of the ocean to another. Navigation is one of the most useful and valuable things that a technical school can possibly teach in a seaside parish like Ringsend. I hope these schools will give an opportunity to every Ringsend boy who is ambitious to rise in life to do so; and I hope before twenty or twenty-five years are past there may be more than one of the boys of Ringsend—perhaps boys in this crowd—commanding a fine ship, and feeling that they owe their position to the Technical Schools at Ringsend. It is no doubt early to talk about things like this. We are at the beginning of our endeavour, but it is clear that whether the schools succeed or fail will depend on those who administer and manage as well as for those for whose benefit it is built. Those who manage and administer those schools will come face to face as time goes on with all kinds of difficulties that will be fatal to these schools if they are not promptly and skilfully dealt with. They will require great zeal, constant care, and great determination to make these schools succeed. Very much depends on those who are going to use the schools. They, too, must resolve to make these

schools a real success. A great many will feel that they don't see the use of technical education. Well, I appeal to them to exercise the virtue of faith. You cannot tell, unless you try; and even if what they learn do no good, it can do no harm; and the best thing to do is try the experiment. I only appeal to you to give the schools a fair trial. I will now conclude by wishing success to the schools, hoping most earnestly from the bottom of my heart that you may find that they are beneficial to Ringsend, and to the people in the neighbourhood all along the coast.

In a cavity in the stone was deposited a bottle containing a document, of which the following is a copy:—

"PEMBROKE TECHNICAL AND RINGSEND FISHERY SCHOOL, DUBLIN."

"This building is erected by George Robert Charles Herbert, 13th Earl of Pembroke, Earl of Montgomery, and Baron Herbert of Shurland, to provide instruction in fishery and other industries to the inhabitants of the district in which his Dublin estate is situate, in accordance with the scheme which accompanies the memorial.

"The Pembroke Township Commissioners have agreed to contribute towards its support.

"The foundation-stone of this building is laid by the aforesaid, the Right Honourable the Earl of Pembroke, this twentieth day of June, one thousand eight hundred and ninety-two."

ARCHITECTURAL COMPETITIONS.

THE following revised "Suggestions for the Conduct of Architectural Competitions," dated 2nd ult., have been sanctioned, and issued by the Royal Institute of British Architects:—

- 1.—The promoters of an intended competition should, as their first step, appoint one or more professional assessors, architects of established reputation, whose appointment should be published in the original advertisements and instructions, and whose decision should govern the selection of the designs.
- All the designs sent in should be submitted to the assessors.
- 2.—The duty of assessors should be,—
 - (a) to draw up the particulars and conditions as instructions to competitors, and to advise upon the question of cost;
 - (b) to determine which of the designs conform to the instructions, and to exclude all others;
 - (c) to advise the promoters on the relative merits of the designs admitted to the competition, and to make a selection in accordance with the conditions.
- 3.—Every promoter of a competition, and every assessor engaged upon it, should abstain absolutely from competing, and from acting as architect, for the proposed work.
- 4.—The number and scale of the required drawings should be distinctly set forth, and they should not be more in number, or to a larger scale, than necessary to clearly explain the design. If perspective views be required, it should be so stated; and they should be uniform in scale, number, mode of colouring, &c.
- 5.—Competitions should be conducted in one of the following ways:—
 - (A) By advertisement, inviting architects willing to compete for the intended work to send in designs. The promoters, with the advice of the assessor or assessors, should make their selection from such designs. The author of the design awarded the first place should be employed to carry out the work.
 - (B) By advertisement, inviting architects willing to compete for the intended work to send in their names by a given day; with such other information as the candidate may think likely to advance his claim to be admitted to the competition. From these names the promoters, with the advice of the assessor or assessors, should select: (a) an architect to carry out the work; or (b) a limited number to compete, and each competitor thus selected should receive a specified sum

for the preparation of his design. The author of the design awarded the first place should be employed to carry out the work.

- (c) By personal invitation to a limited number of selected architects, to join in a competition for the intended work. Each competitor should receive a specified sum for the preparation of his design. The author of the design awarded the first place should be employed to carry out the work.
- 6.—No design should bear any motto, device, or distinguishing mark; but all designs should be numbered by the promoters in order of receipt. Any attempt to influence the decision of the promoters, or of the assessor or assessors, should disqualify a competitor.
- 7.—In every case the amount of premium or remuneration for the competitive designs should be fixed by the promoters, acting under the advice of the assessor or assessors, and should be paid in addition to the usual professional charges for carrying out the work.
- 8.—Where a deposit is required for supplying the instructions, it should be returned on the receipt of a *bona fide* design; or if the applicant declines to compete and returns the said instructions within a month after their receipt.
- 9.—A design should be excluded from a competition,—
 - (a) if sent in after the period named (accidents in transit excepted);
 - (b) if it does not give the accommodation asked for;
 - (c) if it exceeds the limits of site as shown on the plan issued by the promoters, the figured dimensions on which should be adhered to until officially altered;
 - (d) if the assessor or assessors should determine that its probable cost will exceed the outlay stated in the instructions, or the estimate of the competitor should no outlay be stated; provided always that should the assessor or assessors not have been consulted in the first instance respecting the cost, as recommended in paragraph (a) of Clause 2, and should he or they be of opinion that the outlay stated in the instructions is inadequate for the proper execution of the proposed works, the assessor or assessors shall not be bound in the selection of a design by the amount named in such instructions, but the question of cost shall nevertheless be a material element in the consideration of the award;
 - (e) if any of the other instructions are violated.
- 10.—It is desirable that all designs submitted in a competition, except any excluded under Clause 9, should, with the consent of their authors, be publicly exhibited after the award has been made, which award should be published at the time of exhibition.
- 11.—The architect, whose design may be selected as the best, should be employed to carry out the work, and he should be paid in accordance with the schedule of Professional Practice and Charges of Architects sanctioned and published by the Royal Institute. If no instructions are given to him to proceed within twelve months from the date of the selection, he should receive adequate compensation in addition to the premium (if any) awarded to him. In the event of a part only of his original design being carried out, he should be paid a sum to be agreed upon in respect of the deferred portion, such sum to be merged in the usual professional charge when the completion of the design is proceeded with.

* * It should be understood that the Royal Institute issues these Suggestions as a guide to promoters where a competition has been decided upon, but not as necessarily recommending the principle of competition.

ASTON WEBB, *Hon. Secretary.*
WILLIAM H. WHITE, *Secretary.*

ROADMAKING IN AMERICA.

In a recent road convention held at Trenton, N. J., Mr. J. Owen, of Newark, read a paper on "The Construction and Repair of Country Roads." As to grade he asserted that no road should be built to a level grade, but to one which should never be less than half per cent., with as much more as possible up to one per cent., which is probably the most suitable grade for highways and gives a free and proper drainage. A grade of four per cent. is the limit of good easy travelling, and nothing steeper than ten per cent. should ever be allowed, and only as much as this in exceptional circumstances. As regards the crown he had found that a crown of 12 in. in a 30 ft. road, settling to 10 in. shortly after completion, was about the desideratum. An extra allowance of 2 in. should, however, be given in grades steeper than five per cent. To shed water more quickly, and in all steep grades, breaks should be put in at about every 400 ft. He laid special stress on thorough drainage. Quicksands could always be dealt with in this way, but bogs and swamps of large area could not be thus handled, and for such brush filling was recommended. His practice was to vary the thickness of the road with the grade, using a thickness of 10 in. for grades less than one per cent., 8 in. for grades between one and four per cent., and 6 in. for grades steeper than this. The material for the foundations might be of any durable stone, even water-worn sandstones not being objectionable; but if round, the stones should be broken, to prevent them working to the surface. These foundation stones should be laid by hand, close together, and firmly wedged with smaller stone on top; this wedging is of especial importance in soft places. The thickness of this foundation might run from 5 in. up, but durable stone was of the first importance. After the foundation had been covered with a thin layer of loam or clay, just sufficient to fill the spaces between the stones, a top layer of broken rock should be put on and rolled, a 2-ton horse roller being sufficient for the purpose. Over this a second layer of loam should be placed and well rolled, after which the usual practice is to put a final coat of road screenings on top and roll it in, but where great economy is desirable this may be dispensed with. Roads built as above should last from three to five years under ordinary travel. Their cost, including foundation stones, was in Essex County, N.J., about £600 to £800 per mile for a road 16 ft. wide, and repairs cost about 23 to 25 cents per lineal foot.

THE DUBLIN BRICK AND TILE COMPANY.

THE report of the directors of the above company for the past half-year is as follows:

The temporary stagnation in the building trade during the past half-year has had the effect of reducing sales to a considerable extent; but your directors availed themselves of the opportunity to provide for a contingency which might have injuriously affected your interests, and which was likely to occur at any time, in the event of a sudden demand springing up, and which the company would have been unable to meet, for want of a sufficient stock of bricks on hands. The company were declared contractors to the City of Dublin Corporation during the past half-year, and the directors were in expectation of receipt of large orders for works in immediate contemplation. These circumstances necessitated (in the opinion of the directors) an augmentation of the stock, and it will, doubtless, be gratifying to the shareholders to know that the Company is now in a position to meet all probable demands. This work has been accomplished with the aid of the current resources of the company, the directors having refrained from issuing share capital for the purpose,—a course which they trust will meet with the approval of the shareholders. Acting on the report of your auditor (which in effect recapitulates the statement in the foregoing paragraphs), your directors recommend payment of an *ad interim* dividend on the 6 per cent. per annum preference shares and un-

ad interim dividend at the rate of 5 per cent. per annum on the amount paid up on the ordinary share capital of the company, carrying forward the balance of revenue to the December half-year, which the Directors have reason to believe will be a prosperous one for the Company. All your machinery, works and plant are in excellent order and condition.

NEW MILITARY CHURCH,
SOUTH CAMP, ALDERSHOT.

On Monday last, 27th ult., the foundation stone of the new military church, dedicated to St. George, at Aldershot, was laid by her Majesty the Queen, the Duke of Cambridge and the Duke of Connaught being present. The building is in the Early English style, the walls being composed of red brick, and the dressings in St. Aldhelm Box Ground stone, from the quarries of the Bath Stone Firms (Limited), Bath. When finished, the structure—169 ft. by 64 ft.—will provide seats for 1,012. The corner stone of the church bears these words: "To the Glory of God, and the Honor of St. George, this stone was laid on the 27th of June, 1892, by H.M. Queen Victoria, Empress of India." The contract is being carried out by Messrs. J. Dorey and Co., of Brentford, under the superintendence of Colonel Waller, Major Pitt, and Lieutenant Richie.

MISCELLANEOUS.

ARTIZANS' DWELLINGS AT RINGSEND.—At the meeting of the Pembroke Township Commissioners, on the 20th ult., the Artizans' Dwellings Committee reported that only one tender had been received for the erection of artizans' dwellings at Ringsend, when it was decided to again advertise for tenders.

ROYAL COLLEGE OF SCIENCE, DUBLIN.—At the Sessional Examinations recently held at this College, the Silver Medal was awarded to Mr. Harold E. Spencer. The Royal Scholarships were awarded to Messrs. William Barlow and Cecil C. O'Gorman. The Diploma in the Faculty of Mining was conferred on Mr. Robert J. Brown; in the Faculty of Engineering, on Mr. Michael J. Buckley, Mr. Arthur Poirotte; and, in the Faculty of Manufactures, on Mr. Thomas Kendrew, Mr. S. Barratt.

REMOVING LINES FROM DRAWINGS.—This operation is generally accomplished by means of an erasing knife, which, however, is kept in order only with great difficulty. The following is a good means of overcoming this difficulty and saving risk and labour. The blade of the knife is ground to a bevelled edge and used with its blunt side towards the draughtsman and the sharp side away from him. When erasing, the knife thus held will cut only in the direction from the operator, and not in the opposite direction. A knife thus ground can stand a considerable amount of vertical pressure without cutting into the paper, takes off fine parings, and is easily reground.

IRISH FLAGS.—In our own city, as well as in many of our suburban townships, there is an increasing demand for the above-named article. Messrs. Hampson and Co., of the Doonagore Quarries, Co. Clare, have recently established an agency in Lower Erne-street, where a large stock is kept, suitable for street pavements, railway platforms, basements, yards, &c., from 1 in. to 4 in. thick; also curbs, channels, and crossings. Of the wearing qualities of these flags we need not say one word, but confidently recommend a visit to the depot or a correspondence with Mr. E. S. Glanville, whose advertisement on front page will give particulars.

CONNSWATER AND BALLYHACKAMORE SEWERAGE.—At a meeting of the Belfast Union on Tuesday last, Sir David Taylor, J.P., presiding, Mr. John Woods drew attention to the above scheme. A large sum of money had already been expended therein, and he urged the importance of further proceeding with the matter at once. He, for one, declined to allow so important a subject to be shelved, and he therefore begged to move that the committee appointed to take charge of the scheme be convened for Tuesday next, when Mr. Sinclair Boyd will be requested to confer with them. Mr. Woods added that, if necessary, a public meeting could be called to ascertain if the people con-

cerned in the improvement would be willing to pay the taxation involved in the completion—11d. in the pound.

A NEW CHIMNEY COWL.—A new form of cowl for chimneys and other minor ventilation has, says *Invention*, been patented by Messrs. Wheeler and Sons, for which considerable merits are claimed. The chief features of the cowl are the use of twin blades to the archimedian screw, the introduction of coned louvres within the wind blades to prevent the admission of rain and snow, and careful provision for decreasing the friction of working parts, which is always the weak point of revolving cowls. The use of phosphor bronze for bearing surfaces, and the reduction of bearing points to one by careful balance of the cowl, tend to the reduction of friction.

COMPLIMENT TO AN ENGINEER.—On Friday last, the brother-officials and friends of Mr. A. E. Mills, Assoc. M. Inst. C.E., assembled in one of the Abney-street offices of the Great Northern Railway Company, for the purpose of testifying to the estimation in which they held that gentleman during a period of ten years, in the Engineering Department of above-named company, and in that of the Dublin Junctions Railway Company. The presentation consisted of a valuable clock, with set ornaments to match; a case of carvers; silver combination breakfast dish and soup tureen. Mr. John Robertson, General Manager, Great Northern Railway Company, presided, and explained why they were brought together on that occasion. He said he was gratified to take part in anything which would cement friendship, and knew nothing more encouraging than to feel that hearts are beating for one's success. Mr. Mills could take courage in the assurance that he had many friends to wish him well, and who would mark from time to time his prosperity in life. Mr. Mills, in accepting the presentation, said that no remarks of his could express the pleasure and gratification which he felt. During his ten years' service he had always received uniform kindness and courtesy from all of his friends and colleagues; and although entering another business sphere he hoped that it would not sever the friendships he had formed. The recipient is a son of Mr. W. H. Mills, M. Inst. C.E., engineer-in-chief of the Great Northern (Ireland) Railway. The young gentleman has (we may state) accepted the position of agent (at 15 Tullibole-place in this city) of Messrs. T. Cordingley and Sons, Bradford, Yorkshire; and also of Messrs. Charles Francis, Son, and Co., of Newport, Isle of Wight. The business announcements of both firms are to be found in our advertisement columns.

FINE WEATHER.—Now is the time for painting all outdoor work that requires protection from the weather. All who intend painting should write to CARSONS, Bachelor's Walk, Dublin, for their new price list with patterns of a hundred shades of paint, all prepared so that any person can apply them. The simplest, cheapest, and most durable to be had.

Illustration.

NEW PARCELS POST DEPOT, AMIENS-STREET,
DUBLIN.

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IT is respectfully requested that all parties indebted to the IRISH BUILDER, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

THOMAS GEE,
Master Plasterer and Cement Worker,

Agent for fixing W. Horne's Fire-resisting Fibrous Plaster Ceilings, superior to timber sheeting for shops or warehouses, where business could be carried on without inconvenience while fixing, also for Trusses or Centre Flowers. Patterns can be shown.

Address—50 PARK AVENUE, SANDYMOUNT.

THE IRISH BUILDER.

Vol. XXXIV.—No. 782.

SOME NOTES RELATIVE TO
THE PARISH OF BALLYGARTH,
DIOCESE AND COUNTY OF MEATH.

BALLYGARTH, formerly Balionastlik, is the name under which this parish (Rural Deanery of Duleek) appears in Pope Nicholas' Taxation of the Diocese of Meath, made in 1291, for the Relief of the Holy Land. Thomas St. Leger, Bishop of Meath [1287-1321], and Nicholas Cusack, Bishop of Kildare [1279-99], being the Pope's Commissioners.

1392. No. 10. E[cclesia] Balionastlik, viii^m. dec x^a viii^d. William White, Rector.

1615. Visitation Book. Library R. I. Academy (MS.), p. 278. Decanatus de Duleek.

Ballygarth } Rector, Richardus Purdon,
residens } Minister et Predicator.
Ecclesiæ et cancella repantur cu libris."

1602. John Netterville, of Dowth, died seized of the advowson of Ballygarth, leaving Nicholas his son and heir.—(Ferguson's *Remarks*, p. 96.)

1622. In this year the Bishops of the Province of Armagh compiled a Report of their various Dioceses. The MS. of this "Report" is now in Trinity College Library, and is known as "The Ulster Visitation Book." The portion which includes the Diocese of Meath, has been printed in Elrington's *Life of Archbishop James Ussher*, prefixed to that Prelate's Works [Dublin, 1847], Dr. Ussher being at that time Bishop of Meath. In this MS., "No. 6.—Deanrie of Duleeke," the mention of this parish runs thus:—

"6. Balligarth [a Rectory] in the County of Meath. Presentative, the Lo: Netterfield, Lo: Viscount of Balimore, Patron. Incumbent, Mr. Richard Purdam, borne in this country, but of English parents; a Cambridge man, of good life and conversacion. Valuacion in taxe to his Ma^{ty} 8^{li} 3^s 4^d Ir. XXth part annuall to his Ma^{ty}, 8^s 2^d Ir. Valew 40 markes ster. He resideth at another liveing of his in ye same diocese not far from thence [Paynestown]. Mr. Tho: Lees, a preaching minister of good life and conversacion serveth the cure, and resideth at a liveing of his owne within two miles [i.e., Mora als Moore Church]. The church and chauncell are both indifferently well repaired. A manse house, now ruined; a garden, an orchard, and an haggard. 3 acres of glebe."

1633. A Regal Visitation was held in Ireland in this year, during Lord Strafford's vice-royalty; Bramhall, afterwards Bishop of Derry, and subsequently Primate, being the Chief Commissioner.

The Visitation for Meath Diocese was held "apud Trimm, Octavo Januarii, Juxta, &c., die Mercurii." (Page 26.)

"Decanatus de Duleeke. Balligart R. Rich: Purdon, R.; Visct. Neisterfield, P. val. xvi^{li} an."

"Richard Purdon, clk., [ordained] Deacon and Priest by Thos. Meath [Jones] 18 Sept., 1591; admitted by Hugh Bp. of

Meath [Brady] to R. Kilskere, 28 Dec., 1581; admitted by Thos. Meath to R. Killallon, 4 Nov., 1592; R. Ballygarth, 20 Feb., 1604. Adam, Abp. Dublin [Loftus] and Ambrose Forth, L.D., Judices Curie Reg. Prerog., &c., concesserunt eidem Richardo ut dispens: ad retend: et possidend: unacum Rects. de Killesker et Killallon, pre'd Prebendam sive Canonieatum de Teshaggard, Ecclesiæ Cathedralis Sti Patricii, Dublin, cum suis membris, &c., quinto die Februarij, 1595."

[In 1604, being aged and lame, Mr. Richard Purdon had had the king's licence to repair to England for the recovery of his health: "Lic. to Gilbert Purdon, a Preb. of S. Patk's, Dub., being aged and lame, to repair to Engld. for the recovery of his health, and to continue there for 6 mths. after, provided he finds a sufficient preacher to supply his place and be approved of by the Abp. of Dublin, being the superintendent of the sd church, and by the Bp. of Meath, 12 Sept., Pat. 2 Jac. I. (p. 46)." Lic. to reside in Engld. to Gilbert Purdon, on account of his health, 12 April, 3rd Jac. I. (p. 67). Rot. Pat., 2 Jac. I. (See Cotton's *Fasti*, vol. ii., Dub. 1847, p. 161.) Purdon's successor in the prebend was appointed in 1615, according to Cotton; by the above testimony this would seem wrong, and he probably held the stall until 1636.]

1641.—Nicholas, 1st Lo: Viscount Netterville, of Dowth, having joined in rebellion with the Lords of the Pale, was outlawed, 17 Nov., 1642; and by the commissioners for enacting the Act of Settlement, was adjudged "Nocent." A memoir of this family may be found in Lodge's *Peerage of Ireland*, by Archdall, vol. iv., p. 202 (Dublin, 1789). Their estates were forfeited. When granted by Charles II., the advowson of the Rectory of Ballygarth appears to have been retained by the Crown.

1659. According to the census of 1659, of Meath County (MS. in R.I.A., p. 3), Duleek Barony, Ballygart, George Pepper, Esq., Tituladoc. The parish contained 12 English and 37 Irish inhabitants. Total 49. Moorchurch, "Sarsfyeldstown," George Pepper, Esq., Tituladoc, contained 41 inhabitants, all Irish.

1693. The Lords Justices of Ireland, pursuant to their letter dated September, 1693, demanded an account of the state and revenues of the See of Meath. Anthony [Dopping], then Lord Bishop, made the following report of Ballygarth:—"Rectoria Balligarth, ecclesia Sancti Georgii, Rex Patronus, est integra Rectoria et nulli Monasterio appropriata. Procuraciones sunt 07 06^d. Synodalia xii^{li} vide Rotulum proc. & synod; Primitiæ 08^{li} 03^s 04^d. xx pars 08^s 11^d Ir."

1694, Feb. 25th. Thomas Langdail was presented by the Crown to this Rectory.—*Liber Munerum Hiberniæ*, part v., p. 120.

1697. Anthony Dopping, Bishop of Meath, compiled an enlarged account of the State and Revenues of his diocese. This remains in manuscript in the Public Library, Armagh. A copy, extracted by John Stearne, Dean of S. Patrick's, Dublin, and subsequently Bishop of Clogher, is preserved in Marsh's Library, Dublin. This parish is thus noticed in this MS.:—

"Ballygarth is a Rectory worth 20 pounds. The King is Patron. William Meols, Rector of it, resides *ut supra* [namely, at Julianstown; he held, together with Ballygarth, the vicarages of Julianstown, Timoule, and

Mora or Moore and Ardcaith Church,] within a mile of it. Church and Chancell ruined since 1641. Value in the King's Books 08^{li} 03^s 04^d. No Impropiator. It has a house and garden, and two acres of glebe."

This William Meols or Meales, was probably son of a clergyman of the same name, who, in 1640, was Dean of Clonmacnoise and Rector of Ardbraccan, and who, in the Rebellion of 1641, lost property amounting to £1,006. (MS. in T.C.D. Library, quoted by Cotton—*Fasti Eccl. Hib.*, vol. v., 227, and vol. iii., 145.)

1706. June 5, 5^o Anne.—Henry Matthews was presented by the Crown to this Rectory. —(*Lib. Mun. Hib.*, part v., vol. ii., p. 122.)

1733. "No. 34 Ballygath or Ballygarte." —"The King, Patron; H. Matthews, Rector; Colingwood, now Wilders, Curate; is an entire rectory, never appropriate to any monastery, and so, not subject to Crown rent; tis small, consisting only of 344 acres; which makes a stripe of land hemmed in by the two parishes, between which it intervenes, running in almost to the very centre of them and to the church of Julianstown, and as conveniently situated with respect to that church, as any of the lands almost in either of the former parishes. The church is ruinous, and by this view seems not to be necessary to have it repaired. The value of the parish is £40 per annum."

(From a MS. account of Meath Diocese, of the year 1733; formerly in the Diocesan Registry; now in the Public Record Office, Dublin.)

1740. March 25, 14 George II.—Daniel Jackson was presented to this Rectory by the Crown. (*Lib. Mun. Hib.*, vol. ii., part v., p. 127.) He was also Curate of St. Werburgh's, Dub., and died 24 January, 1747. (*Lond. Mag.*, p. 56.)

1745. March 3, 20^o George II.—John Jackson was presented by the Crown to the Rectory of Ballygarth (*Lib. Mun. Hib.*, vol. ii., part v., p. 121); he also held (by faculty dated 11 July, 1764) the Rectory of Nurney, Diocese of Kildare. Faculty Book, vol. iii., 93, Public Record Office, Dublin.

John Jackson, A.M., eldest son of Rev. John Jackson, A.M., Vicar of Santry, and Castleton [1706-51] entered T.C.D., graduated B.A. 1737, M.A. 1740, ord. Deacon 23 Dec., 1739, by Abp. of Dub., in St. Patks. Cath., Curate of Cloghran, 17 April, 1742; Curate of Coolock, 12 Oct., 1750; Rector of Ballygarth, 3 May, 1762 (by Crown); J.P. for Dublin County, 18 May, 1764. The Countess of Mountrath died 25 July, 1766, and left him £2,000; he having been her land agent (*Dub. Journal*); Preby. Tullycorbet (Clogher), and 28 Oct., 1783, Archdeacon of Clogher. He died Oct., 1787, and was interred in the family vault under the chancel of Santry Church, on 21 Oct. (*Par. Reg.*); Adams's *Santry*, p. 119. He was grandson of Danl. Jackson, his predecessor. (See *Santry*, pp. 68, 69). F. B. iii., 93. On July 11, 1764, he had a faculty to hold Ballygarth with Nurney Union, Kildare.

1774. Oct. 15.—Richard Moore was presented by the Crown to the Rectory of Ballygarth, or Ballygrath, *vice* John Jackson, deceased; he was M.A., and formerly a King's scholar of Westminster, and elected to Trinity College, Cambridge, in 1768; he was Dean of Emly for forty-two years, from 1776 to 1818. Dean Moore was Rector of Ardbraccan, from 22 August, 1780, until his death on March 31, 1818. [Tombstone,

Ardbraccan]. He and his Curate, Rev. Thos. Toomey, compiled the account of that parish, given in Mason's *Parochial Survey*, vol. i., p. 84, [Dublin, 1814]; he was of Barne, in the County of Tipperary. (His portrait is at Ballygarth Castle.)

1776. August 24.—John Bayly was presented by the Crown, *vice* Richard Moore, deceased. This last word should, I think, be *resigned*.

1799. June 8.—John Burdett was presented to this Rectory by the Crown, *vice* John Bayly, deceased. By faculty, dated 22 August, 1799, he held with it the half Rectory of Reynah and the Vicarage of Gallen, in the King's County and Diocese of Meath, to which he was presented by Bp. Maxwell [of Meath], in September, 1798. [*Report Eccl. Com.*, 1837].

John Burdett, 40 years Incumbent of Rynagh, Gallen, and Ballygarth, died Sept. 5, 1841, in his 66th year. He had a faculty dated 22 Aug., 1799, for Ballygarth with Rynagh and Gallen. His Tablet is thus inscribed:—"Sacred to the memory of the Revnd. John Burdett, late of Rutland-square in this city, and for upwards of forty years Incumbent of the parishes of Rynagh and Gallen in the Diocese of Meath, as also of the Parish of Ballygarth in the same Diocese, died the 5th day of September, 1841, in the 66th year of his age."—(S. Mary's Parish Church, Dub.)

1807. Ballygarth Rectory.

"Rev. John Burdett, non-resident, lives on his other Benefice in this [Meath] Diocese, has cure of Souls; duties discharged by a neighbouring clergyman. N.B.—The only remedy against non-residence in this Parish would be to unite it perpetually with some of the neighbouring Parishes."

Parliamentary Return, 1807.

1837. This Parish is thus referred to in the Report of the Ecclesiastical Commission, Ireland, presented to Parliament, and ordered to be printed 11 May, 1837:—

"Ballygarth, a rectory, with cure, subject to episcopal jurisdiction. One mile and quarter in length and $\frac{3}{4}$ of a mile in breadth by computation, containing 766 acres, no roads, and 24 perches in the County of Meath. One moiety of the land in this parish is reported to be very good, and the remainder of a good quality. It contains 96 inhabitants. John Burdett, clerk, Inducted 7 September, 1799, Incumbent. No stipendiary Curate employed for this parish, but the occasional duties thereof are discharged by the Incumbent of the adjoining parish, at a stipend of £10 per annum. The gross income, £71 9s; from Tithe composition, £62; Rent of $3\frac{1}{2}$ acres plantation, or 5 acres 2 roods 27 perches, statute measure of glebe, valued at 54s. per plantation acre, and let to one Tenant for £9 9s. Total income, £71 9s., gross. Visitation fees, 13s. 3d.; Collector's fees at £5 p. cent., £3 11s. 5d.; Diocesan schoolmaster, 8s. 8d.; Total of deductions, £4 13s. 4d.; net income, £66 15s. 8d. No glebe house. Incumbent is non-resident on this Benefice, but resides on his other Benefice in the same Diocese. No Church. No sums levied by Vestries. The King, Patron. The Benefice of Ballygarth is a Rectory. The Incumbent has no Patronage in right of his Benefice. Besides the benefice of Ballygarth, with cure, Incumbent holds the united parishes of Reynagh and Gallen, with cure of souls, in the King's County and Diocese of Meath."

1868. The Report of the Established Church (Ireland) Commission, presented to Parliament by command of Her Majesty, mentions this parish.

Schedule xi., p. 600.—Ballygarth—Tithe rentcharge, £46 10s., vested in Ecclesiastical Commrs., by instrument under seal, dated 17 September, 1841.

Schedule xvi., page 604.—Parishes suspended for non-performance of Divine Service, under 3 and 4 Will. IV., c. 37, s. 116.

Meath Diocese. Parish Ballygarth.—Emoluments received by Ecclesl. Commrs. Church population, 13.

Rev. Henry Moore was Vicar of the ad-

joining Union of Julianstown, and performed the occasional duties of Ballygarth parish.

The Rev. William Reeves, D.D., LL.D., M.B., late Bishop of Down and Connor and of Dromore—formerly Dean of Armagh and Rector of Tynan, in a MS. account of Meath Diocese, compiled by him, thus notices Ballygarth:—"No. 10. Deanery of Duleek. Ecclesia de Balionastlik, viii. mr., decia, xs. viijd."

"This is the form in which the church called Ballygarth in other records appears in the Exchequer Rolls. It is a small parish of three townlands, 758 acres, chiefly forming the demesne of Ballygarth Castle, belonging to Colonel Pepper. The ruins of the church, containing a neat east window and in good preservation, are enclosed in a thick plantation near the castle. There are no traces of a burying-ground outside, and funerals have long ceased to attend this; but there are some tombstones along the east gable inside. "Ecclesia Sancti Georgii. Rex patronus"—Dopping. The ruin is not noticed in the Ordnance Survey; but it is represented in Dr. Beaufort's Map.

William White, parson of the church of Ballygarth, had licence from the king to go to the Court of Rome, on the business of Alexander, Bishop of Meath.—R. C., 10 Ric. II., p. 119, b. 102. This was Alexander (Petit) de Balscot, Bishop of Meath, 1386-1400.

In the reign of Edward II., Nicholas Nettervyle granted, for the term of his life, the manor of Ballygarth to Luke and John Nettervyle.—R. P., 7 Henry IV., p. 183, 110. John Fitz Luke Nettervyle had the king's pardon for intrusion on the manor of Ballygarth.—R. P., 7 Henry V., p. 215, b. 15."

The parish of Ballygarth is noticed in Lewis' *Topographical Dictionary of Ireland*, vol. i., p. 134 (London, 1837).

D'Alton's *History of Drogheda* (Dublin, 1844) gives an account of this locality, and an engraving of the Castle of Ballygarth (vol. i., p. cxxxi.).

The old parish church stands opposite to the front of Ballygarth Castle, at a very short distance. It is used as a burial-place by the Pepper family, and contains three or four tombstones:—

Here Lyeth ye Body of Mrs. Rose Nicholson, who departed this Life 29th of December, 1737, aged 64 years.

George Pepper died 19 June, 1851, aged 58.

Thos. Taylor, of Elmstown [?], son of S^r T. Taylor, died 6 May, 1747, aged 47.

Mrs. Anne Pepper, dau. of S^r Thomas Taylor, of Kells, Bart, died 17 April, 1749, aged 56.

Another tombstone bears the Nangle arms (?), but no inscription except these letters—S R I H S N E

Thomas St. George Pepper died, aged 49, 21 July, 1884, and was buried inside the old church, on July 25.

Charles Pepper, Esq., is the present proprietor of Ballygarth Castle.

W. REYNELL, B.D., M.R.I.A.

ST. MICHAN'S ROMAN CATHOLIC CHURCH, DUBLIN:

ITS HISTORY, PAST AND PRESENT.

(Continued from page 145.)

St. Michan's (R. C.) Parish.

THIS parish, in its integral state, is one of the oldest of those on the north side of the River Liffey, as shown in our last article; but, since it was divided into Roman Catholic parishes, in the year 1707, it contains only about one-half (on eastern side) of its original area. Yet the small portion of the original parish that it now contains is full of interest to the antiquary, as well as to the historian, in many ways, especially the following noted places: (1) the Broad Stone; (2) the Old Dominican

Priory; and (3) the Granary of St. Mary's Abbey.

I. The Broad Stone.

On the north, the former boundary of this parish was the "Broad Stone," which, in olden times, was also the extremity of the Liberties of the City of Dublin. In a survey of the Liberties of the City of Dublin by the Mayor and Aldermen, known as the "Riding the Franchises," given by Sir James Ware, in his *Antiquities of Ireland*, that eminent historian mentions the *Broad Stone* as having been placed over the Bradogue river, forming, as it were, a kind of bridge for the accommodation of man and beast. After describing most minutely the course that the city cavalcade took on starting from the old Custom-house in Essex-street, he (Sir James) goes on to say, that, passing through part of the Deer-park,* "they proceeded eastward through Mr. Brownlow's fields and several gardens, to Stony Batter, by Mr. Addison's house, on the south end thereof. Thence through the house with the sign of the *Half Moon*, on the east side of Stony Batter, and gardens of Col. Stanley, and through the said house to Grange Gorman-lane. From thence by the south end, with the sign of the *Half Moon*, on the east side of Grange Gorman-lane, and through the gardens into [the old] Finglas-road.† From thence northward to the BROAD STONE. From thence through the water-course under the *Stone*, and through the gardens into Drumcondra-road. From thence southward to the little cabin at a well in the garden, on the east side of the road. From thence through the gardens to the sign of the *Coach and Horses* in Ballybough-lane," &c.

The name "Broad Stone" is still preserved in the eastern end of the townland of Grange Gorman, in the vicinity of Phibsborough; and also in the well-known terminus of the Midland Great Western Railway.

II. The Dominican Priory.

In the southern end of this parish, on the north bank of the River Liffey, stood the ancient Monastery of the Dominicans, or Friars Preachers, founded here in the year 1224, by William Mareschall, Earl of Pembroke, "for the health of his soul and that of his wife." How many recollections of grave moments in the past history of Ireland are recalled to memory by this simple reference to the founders of the Dominican Convent of St. Saviour, near Dublin! The wife of William Mareschall was Isabel, Princess of Leinster, only child of the ill-starred marriage of Eva, daughter and heiress of Dermot MacMurrough, King of Leinster, with Richard de Clare, Earl of Pembroke (commonly called Strongbow, from his excellence in archery). The hand of his child, and the reversion of his kingdom of Leinster, were the price which Dermot paid for the aid rendered by the Welsh Baron against his enemies—a compact which led to the subjection of his country, and the plunder and long-protracted suffering of its people.

About the year 1218, the Cistercians of St. Mary's Abbey built a chapel here, which they dedicated to St. Saviour; but, on the coming of the Dominicans into Ireland a few years later, they gave it to them, on condition that

* Portion of the lands of the Knights of St. John, Kilmaham, and now part of the Phoenix Park.

† The only road from Dublin to Finglas at that time was from Cabra-lane, head of Prussia-street, at North Circular-road.

they (the Dominicans) should offer a lighted taper at the Feast of the Nativity, yearly, at St. Mary's Abbey, as an acknowledgment that this monastery did originally belong to the Cistercian Order. It had amongst its benefactors Eustace Le Poer, John Le Decer, Ralph Le Porter, Kenelbrock Sherman, and others, besides frequent pensions and grants from many of the English Sovereigns. On the 1st of May, 1238, the church was founded and dedicated to St. Saviour, and in it were interred many persons of rank and influence; amongst others, Sir John de Cogan, Sir Walter Faunt, Sir John Fitz Rery, the Lord Arnold Poer, Lord Thomas Botiller, Lord William Bermingham, Maurice Fitz Thomas, Earl of Desmond, and others, in the fourteenth century; and in the fifteenth century, Thomas, Lord Talbot, son of Thomas, Lord Furnival, Lord Lieutenant of Ireland; Sir John Bodley, and others.

John Le Decer, who had been several times Mayor of Dublin, was remarkably liberal to this monastery. He erected a large and elegant stone pillar in their church, and "presented to the friars a large stone altar with all the appurtenant ornaments, and entertained them every Friday out of charity." It is also recorded in the registry of the Dominicans of Dublin, that this generous magistrate, in a time of general scarcity gave to the Dominicans and Augustinians one of the three ships laden with corn which he had imported from France to relieve the distressed, and reserved a third for the exercise of his own hospitality and bounty. At the same time the prior of the Holy Trinity [Christ Church], "being destitute of corn, and having no money to buy it, sent to this worthy mayor a pledge of plate to the value of £40, but he returned the plate and sent the prior a present of twenty barrels of corn." "These beneficent actions," says Harris, "moved the Dominicans to insert the following prayer in their litany for the prosperity of Dublin: Orate pro salute majoris, ballivorum, et Communitatis de omni civitate Dubliniensis, optimorum benefactorum huic ordini tuo, nunc et in hora mortis."

In the year 1316, on the approach of Edward Bruce, with his army of Scots, the citizens of Dublin destroyed the church of the friary, and made use of the stones in repairing the city walls and extending them from Wormwood Gate towards the quay, and at Winetavern-street. King Edward II. afterwards commanded the Mayor and citizens to restore the church to its former state; but the good citizens of Dublin, between whom and the Dominican friars there always existed the kindest feelings, required no stimulant in the work, but hastened with alacrity to complete it. Kenelbrock Sherman, who was Mayor of Dublin in the years 1339, 1340, 1341, and 1348 (died in 1351, and was interred in the friary, under the belfry, which had been built by himself), roofed the new church and glazed the great east window, and did many other pious works in connection with the house. The new church was solemnly consecrated on the 5th of the Ides of July, 1402, by Thomas Cranley, Archbishop of Dublin. The Dominican Friary had also a school on the south side of the Liffey (on the site of which portions of the premises of the Messrs. Power's Distillery and Darcy's Brewery now stand), where they taught philosophy and theology;

but, finding great inconvenience from the want of a bridge across the Liffey (the old bridge having been swept away by a flood), they, with the assistance of their generous benefactors, built a new bridge, connecting Church-street with Bridge-street, on the site of a former bridge which was erected in the time of King John, and which fell in 1385. A lay brother of the order constantly attended, to receive a toll of one penny for every carriage or beast passing over it; and Dr. De Burgo, in his *Hibernia Dominicana*, says that he remembers, when a boy—probably about the time of the Revolution, 1688—the vessel that held the holy water with which every passenger was sprinkled as he passed over the bridge. The present Whitworth Bridge (the first stone of which was laid on the 16th October, 1816, by Earl Whitworth, then Lord Lieutenant) is built upon the site of the two former bridges.

The time was now approaching when this ancient monastery, which had grown up and become rooted in the affections of the citizens for centuries, was to pass through the ordeal of persecution. On the suppression of the monasteries, Patrick Hughes, the last prior of the house, surrendered it to the Crown on 8th of July, in the thirty-first year of the reign of King Henry VIII. The monastery and its possessions were afterwards parcelled out among the favourites of King Henry and Queen Elizabeth. Sir Thomas Cusack obtained their lands and tenements in Meath; Lord Chancellor Allen and the judges of the other courts, "the scite and precincts of the monastery and church, with the steeple and cemetery, and the edifices, mills, orchards, and gardens belonging to it, and fifteen messuages in the parish of St. Michan; one messuage in St. Patrick-street, one messuage in New-street, and the moiety of a meadow called Ellen Hore's Mead, *alias* Gibbet's meadow." Afterwards, Queen Elizabeth, in the twentieth year of her reign, granted to Gerald Earl of Kildare, divers gardens, and an orchard containing three acres; and in seven years later she gave to Anthony Deering one messuage, lying on the east side of the churchyard of St. Michan, and a moiety of Ellen Hore's meadow, all being "parcel of the possessions of the Dominican friary." In the reign of Charles I., the Duke of Ormonde became possessed of the Earl of Kildare's part of the property, a portion of which he laid out for building, and opened a new street, which he named Charles-street, in honour of the king. The remaining portion he laid out for a public market, which, although it has been long discontinued as such, still retains his name. The Duke also caused the banks of that part of the Liffey adjoining to be walled in, and a new bridge to be erected over the river leading from Charles-street to Wood-quay, which was known as "Ormonde Bridge." All these improvements which were named after him, retain his name till this day, with the exception of the bridge which fell in 1806, its foundations having been undermined by a great flood in the river; and in 1813, the foundation of a new bridge was laid a short distance westward from the old bridge, which was opened on St. Patrick's day, 1816, and named Richmond Bridge. In sinking the foundation of the south abutment opposite Winetavern-street, some antiquities were found about 4 ft. below the bed of the river. They consisted of coins of Philip and Mary, and Elizabeth, as well as German and

Spanish pieces, cannon balls, pike heads, and other implements of war. On the opposite side were found two ancient boats, caulked with moss, in one of which was a large human skeleton. An English tourist who visited Dublin in the year 1813, informs us that "the new bridge is to be called Richmond Bridge, in honour of the Duchess of Richmond, who laid the first stone, and is said to have left the [great?] sum of five guineas on it for the numerous masons, labourers, carpenters, &c., engaged in the work. The Irish are very apt to neglect their old nobility, and pay attention to their Lord Lieutenant. The name, therefore, of the great Duke of Ormonde is to be sunk."

In 1612 (9 James I.), the whole site of the monastery and church was appropriated to the lawyers, and formed what was called the "Old King's Inns." It was granted to them by Sir John Davies, Knt., his Majesty's Attorney-General, and the premises are described in a Deed, dated 23rd February, 9th James I. as follows:—

"Whereby Sir John Davies, Knt., Attorney-General, grants to Sir Nicholas Walshe, Knt., Chief Justice of the Common Pleas; Sir John Denham, Knt., Chief Baron; Sir Francis Aungier, Knt., Master of the Rolls; Sir Dominick Sarsfield, Knt., one of the Justices of the King's Bench; Peter Palmer, Esq., one of the Justices of the Common Pleas; Char. Calthorpe, Esq., another Justice of the Common Pleas; Sir John Blenerhassett, Knt., Baron of the Exchequer; Sir Robert Ogletborpe, Knt., another Baron of the Exchequer; Christopher Sibthorpe, Esq., Justice of the Chief Bench; Gerald Lowther, Esq., another Justice of the Common Pleas; Sir John Elliott, Knt., another Baron of the Exchequer; John Beere, Serjeant-at-Law; and Sir Robert Jacob, Knt., Solicitor-General.

"DUBLIN CITY.—The entire site and precinct of the late priory or house of Friars Preachers, now called the King's Inns, with the ruinous church thereof without roof or walls, and all other buildings, the burying ground now waste, and divers gardens and orchards, surrounded with the stone walls of the precinct containing 3a.; all messuages and buildings, situate on the W. part of the said site, from the bridge over the Liffey to the lane leading from thence to the site of the late Monastery of St. Mary's Abbey, and situate in the E. part of the street of Oxmantowne, near the site of the said priory, and likewise all backsides to the said messuages or buildings belonging, are excepted out of this grant. To hold for ever, with the intent that the judges and professors of the common law in Ireland, now and for ever hereafter, shall have and possess all and singular the said premises, for a common hall."

In 1662, the Court of Claims sat here, and in 1688, the Court of Grace; and during the abode of James II. in Ireland, he held a Parliament in the Cloisters. He also restored to the Dominicans their ancient priory, which they occupied only a short time, for, on the accession of William III., they were again obliged to desert it, and seek a more safe retreat in Cook-street, over the water. (For more relating to the Dominicans, see IRISH BUILDER for 1st May, 1886.)

The lands of the Dominicans on the south side of the Liffey were granted to Sir William Ussher, of the Bridge Foot, Knt., whose descendants, in the beginning of the

eighteenth century, laid it out for building, and whose name is still preserved in the streets and in that part of the quay which had been formed on the estate.

The foundation-stone of the present Four Courts was laid by the Duke of Rutland on the 13th of March, 1786, on the site of the old King's Inns; and in 1802 the foundation-stone of the new buildings in Henrietta-street was laid.

Before the suppression of monasteries, in the sixteenth century, the Mayor, Recorder, and Aldermen of the City of Dublin were obliged to assist at high mass in the Church of St. Saviour, and to hear a sermon on the duties of magistrates preached in the church of this house on every Michaelmas Day. Since that period, the old custom was represented by an annual procession, on that day, of the Lord Mayor and Aldermen from the Tholsel in Skinner's-row, and through the gardens of the priory—a custom which, in some measure, was preserved, since the opening of the new Four Courts, by the annual march of the city officers from the City Assembly House to the front of the Four Courts; but, since 1841, this custom has ceased to be observed.

(To be continued.)

WESTMINSTER ABBEY.

Our illustration consists of reduced copies of some fine carved stonework in the above abbey, which we have taken from Mr. Lewis Nockalls Cottingham's large work, published in the year 1822, and from which also we recently gave a view of the interior of Henry the Seventh's Chapel, Westminster Abbey. For the use of the copy of this now exceedingly rare work, we are much indebted to Mr. W. G. Doolin, architect, of this city.

SKIBBEREEN WATERWORKS.

At the meeting of the Skibbereen Guardians, Mr. D. M'CARTHY presiding,

Mr. Richard W. Walsh, C.E., Dublin, engineer to the Skibbereen Waterworks, wrote, stating that as the Provisional Order for the waterworks had now been confirmed in Parliament, the works can be proceeded with, and that steps to procure the lands should be taken. He might prepare the land plans, and the Board of guardians might appoint a valuator to fill up the schedule, with the estimated value of each, including the mill-owners. It would be well to apply for the loan, and endeavour to get the works started during the summer days.

Major Kirkwood, Local Government Inspector, was also present.

The clerk said he had not yet heard from the Local Government Board as to the confirmation, and it was, therefore, decided to wait until he did, as they could take no action on the letter before them, which was not an official document.

"RIDING THE FRANCHISES."

In addition to what we have on another page quoted from Sir James Ware bearing on the above subject, we print some very interesting particulars which have already appeared, from the pen of a gentleman who for many years contributed to the Press in this city as well as in London.

"The old city pageant and perambulation known as the 'Riding of the Franchises,' was ridden triennially till about the year 1772, when it was abolished by the Lord Mayor's proclamation.

As there are many at the present day unacquainted with the nature and origin of the old civic customs in Dublin and its surround-

ings in later times, we shall endeavour to give a comprehensive account of it, and in doing so we must, at least, go back for several centuries. Prince John, second son of Henry, created Lord of Ireland by his father, granted to the city of Dublin freedom and liberties by a Charter of Franchise and Immunities *per totam terram et protestatem meam* to be held by him and his heirs. This Charter contains other grants and matters which are not necessary here to enumerate in detail. This appears to be the earliest instrument that occurs, and it bears date, London, the 14th of May, in the third year of the reign of his brother Richard I., 1192; but it refers to a former Charter of local franchise granted by Henry II., now lost. The Charter of King John is contained in the Black Book of the Archbishop of Dublin, entitled "Alen's Register," having been collected by the Archbishop of that name in the reign of Henry VIII. The following portion is given as a translation of the original Latin, and refers to the bounds and franchises of the city of Dublin and liberties thereof:—

"John, Lord of Ireland, Earl of Morton, to all his subjects and friends, French, English, Irish, and Welsh, present and to come, greeting: Know ye, that I have given and granted, and by this my Charter confirmed to my citizens of Dublin, as well as those who inhabit without the walls, as to those who dwell within them, as far as the boundary of the town, that they may have their limits, as they were perambulated by the oaths of the honest men of the city itself, in pursuance of a precept sent to them by King Henry my father, namely, on the east and south sides of Dublin, by the pasture grounds which lead as far as the gate of St. Kevin's Church, and so along the road as far as Kilmerkerigan, and from thence as they are divided from the lands of Dononbrooge [Donnybrook] as far as the Doder, and from the Doder to the sea, namely, to Clarade close to the sea, and from Clarade as far as Ramynelar. And on the west side of Dublin, from St. Patrick's Church through the valley as far as Farnan-Clenegemethe, and from thence as they are divided from the lands of Kilmainam, and beyond the water of Kilmainham, near Avenliffey, towards the mouth of Clochnogannock, and from thence as far as the barns of the Holy Trinity, and from those barns to the Gallows, and so as the division runs between Clonlee and Crynan, as far as Tolecan, and afterwards to the Church of St. Mary of Osmamby. These things we have also granted to them that their tenures and land be secure, who have any granted to them in our Charter, from thence without the walls as far as the before-mentioned limits, that the city may not dispose of those lands as of other lands, but that they observe the common customs of the city, as other citizens do. But this we declare of those who have had our Charter of certain lands, within the said limits, without the walls, before we had granted the aforesaid liberties and this Charter."

The above instrument is stated in a rather general than specific form; and to trace the exact bounds of the city from it at the time would be most difficult. It will be observed that it broke off at the Church of St. Mary of Osmamby, leaving the circuit broken, or incomplete. The defect, however, is in some measure supplied from an inexpressum of an inquisition quoted in the book above alluded to, taken in the reign of Richard II., entitled "De Metis Libertatum pre Novum Inquisitionem," i.e., "Concerning the bounds of the Franchises of the City by a new Inquisition." It will be seen hereafter how much the following differs from the more modern perambulations of the city which were in practice in the last century:—

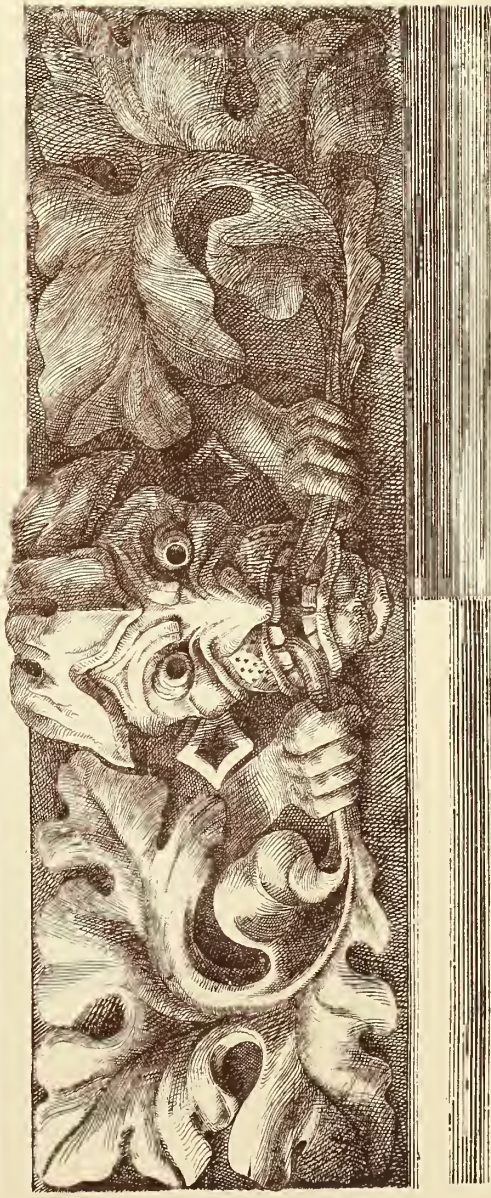
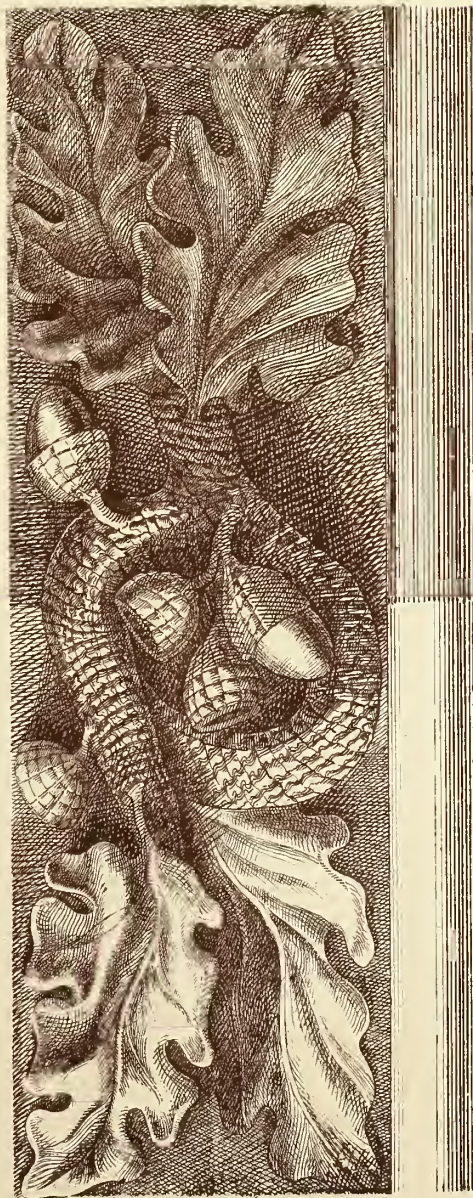
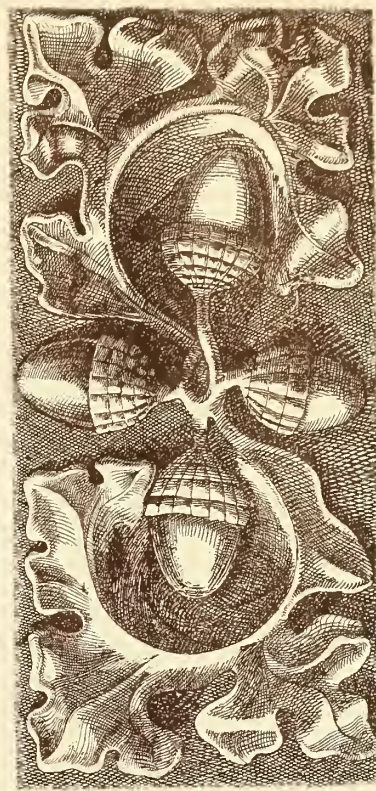
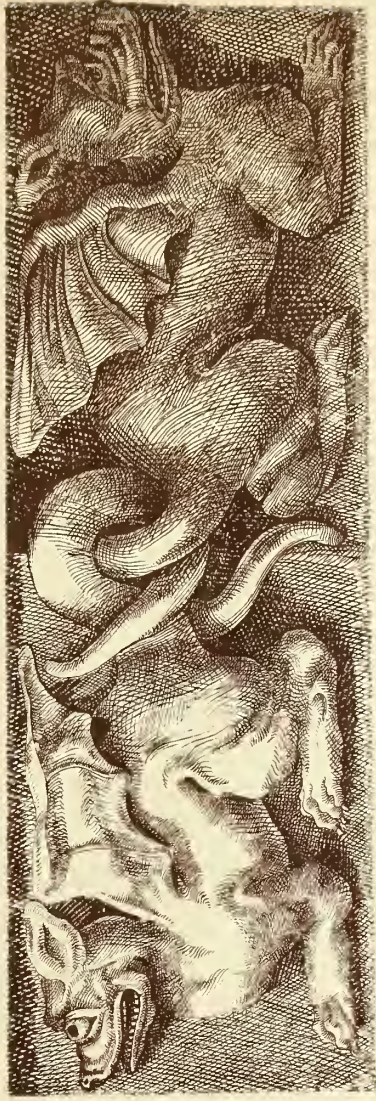
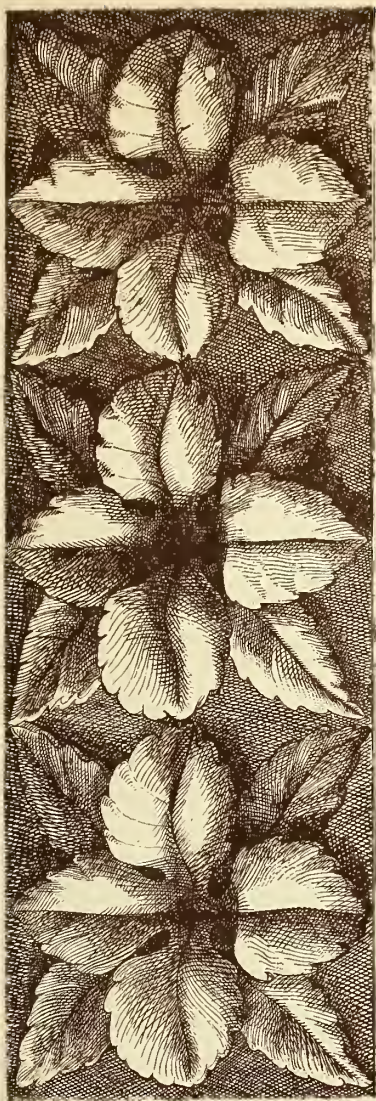
"Richard, by the Grace of God, King of England and France, and Lord of Ireland, to all whom these letters shall come, greeting. We have viewed, &c., &c. It has been shewn to us on the part of the Mayor and Community of the City of Dublin, &c., and jurors upon their oaths say, that the bounds of the City of Dublin are on the east part of Dublin, and on the south part thereof, namely, the pasture leading to the port of St. Kevin, and so by the road as far as Kilmerkerigan, and from thence as they are divided from the lands of Dononbrooge to the Doder, and from the Doder to the sea, namely, Clarade, near the sea, and from Clarade to Reymlan, and from the port of St. Kevin's Church by the way northward to a stone cross where the eastern market anciently used to be kept, towards the west, and from thence to a lane near St.

Sepulchre's in the passage towards a barn as far as to a certain old lane closed up, near to the Commons of the Vicars of St. Patrick's Church, which extend to St. Patrick's-street; and in the west part of Dublin, from St. Patrick's Church, through the middle of the valley to the pool of the house of St. Thomas the Martyr, leaving the south gate of the Monasteries of Whiteschan and Conelan towards the north on the left hand, and exactly through the middle of the depth of the said pool through the middle of the meadow, leading to a pasture called le Irendum, towards the north, and from le Irendum to the Cross of Kilmainam, by the bounds of the lands of Kilmaynan, and from the said cross along the bounds of the lands of Kilmaynan, to a ford called Tyrryl's Ford, and from that ford, between the lands of the Church of the Holy Trinity, Dublin, and the lands of Kilmainam, unto the water of Annaliffy, towards the north by Enolnegannocke, passing into a meadow which leads towards the west as far as the highway, passing from Dublin towards Carberagh; and from thence to the barns of the Holy Trinity, and from those barns, along the trench called Rugh-dite to the highway leading from Finglas to the city, leaving the said trench on the left hand towards the north, and from that highway to the water of Glasteynocke, and so to a hill towards the north where the gallows anciently stood, and from thence through the middle of the water of Glasteynocke, to the highway leading from the said city towards Santreff, and beyond that highway as far as the trench of the land of Cloncliffy, and so along that trench to a green lying on the north side of the abbatical house of St. Mary, Dublin; and thence between the green and the said trench to the middle of the highway leading from Ostmanton to Tulgin, through the middle of the road to the village of Ballybough, unto an ancient path of an old mill, leaving the abbey of Lexinam on the right hand towards the south, and the trench and path on the left hand towards the north, and so along the water of Annaliffy to the Abbey of the Blessed Virgin Mary of Osmamby," &c.

The above description is very specific, and in its light we are enabled to trace the many historic places north and south of the Liffey. In this perambulation many old commons, crosses, trenches, rivers and rivulets, pools, fords, barns, greens, and bye-lanes, were passed, several of which have disappeared in the course of centuries. Places known to us to-day under new or altered names, appear in the above description under their more ancient form. The Liffey and its tributaries, the Dodder, the Poddle, the Camac, the Bradogue, the Tolka, and others were crossed; and other smaller streams, some of which are long closed over by modern streets and buildings. We catch olden glimpses of Donnybrook, Irishtown, Ringsend, and adjacent hamlets; Kilmainham, Island Bridge, the Long Meadow, Arbour Hill, Osmantown, Stoneybatter, Glassmanogue, Glasnevin, Finglas, Drumcondra, Santry, Clontarf, Ballybough, and several other spots north and south of the city, as well as other places that need not be named, in the centre or within the confines of the old city.

Several ancient stone crosses must have existed formerly in the City of Dublin and its environs. In the above-quoted document we have mention of one where "the eastern market anciently used to be kept," in the old city; and in the environs we have mention of the cross of Kilmainham. Doubtless there was a cross at the old hamlet of Harold's Cross, and other southern and northern approaches to the city. In Speed's map of 1610, there is a stone cross figured outside the precincts of St. Mary's Abbey, in one of the approaches of the northern part of the city, or that portion adjoining Osmantown or Oxmantown. Whether the Finglas Cross, in the churchyard of that historic village, was intended for a sepulchral one, or was anciently a market or town one, it is difficult to determine now, as no figures or dates remain upon its surface through which it might be identified as belonging to either class.

In the first-quoted Charter of John, the words "the barns of the Holy Trinity, and from these barns to the gallows," occur, and in the second document these barns and gallows are again mentioned; but in a more precise manner as to their locality:—"Passing from Dublin to Caberagh [Cabra], and



from thence to the barns of the Holy Trinity, and from these barns, along a trench called Rugh-ditch, to the highway leading from Finglas to the city, leaving the said trench on the left hand towards the north; and from that highway to the water of Glasteynock, and so to a hill towards the north where the gallows anciently stood; and thence through the middle of the water of Glasteynock to the highway leading from the said city towards Santreff" [Santry]. The waters of Glasteynock may be recognised as the Tolka, the Tolecan, or the Tullaghan, by which names it has at different times been known. The Tolka has also often been called the Finglas river, the Glasnevin or Ballyhough river, according to the localities it passes through. Speaking of barns and gibbets, the name of Dolphin's Barn and Gallows Green occur to our mind—two spots well-known—though the latter place is better known at present under the name of St. Stephen's-green. A quarry of building stone was worked successfully in the last century near St. Stephen's-green, and the gallows existed, or was erected when required, a little beyond.

By the aid of the above Charter we may also identify the sites and localities of several ancient commons, greens, and open spaces that existed in olden Dublin, upon which the public exercised certain grazing and recreative rights and privileges. Alas! they have nearly all disappeared, having been filched from time to time from the people of Dublin by manor lords and others.

(To be continued.)

ANTIQUITIES IN COUNTY DUBLIN.*

HAVING visited last summer and autumn the principal antiquarian remains in the North County Dublin, I think it right to report upon the condition of some which are at present not in a very satisfactory state, and which our Society might have remedied either by influence in the proper quarter or by direct interference or assistance.

I visited, in company with another member of our Society, the Island of Skerries, called Inispatrick (St. Patrick's Island), or Church Island, on which are the remains of the undoubtedly ancient church belonging to the monastery at one time on this island. It is quite exposed and unprotected, not only to storm and rough weather, but also to the cattle which graze on the island, and appear to herd or be herded in the nave of the church, greatly to its disadvantage as well as profanation. The tufa stone at the wall angles, edge of roof, and remains of groined arches in chancel has become honeycombed like a sponge, but still holds good. A simple post and wire paling, strongly made, to keep out the cattle, and some steps taken to cleanse the inside of the church, and to replace fallen stones in the walls, would not cost much, and would help to preserve this ancient church. The *débris* inside ought to be cleared out, down to the original floor. The nave has evidently, in later days, been built up for a cattle shed, though now roofless. The island belongs to the Hamiltons of Balbriggan, but it is by them let to a local farmer or grazier. Adjoining the church, on the south or south-west, is the clearly-marked site of buildings, no doubt belonging to the original monastery. The island is well worthy of a visit also from a geological point of view. Traces of lead ore appear in the quartz-rock. There are no graves in the church, and it is not easy to identify any outside it.

The ruined church of Wespallstown much needs some attention; it is so buried in elder trees, ivy, &c., that it is hard to examine it and judge of its condition and age. Roughly pacing it as best I could, it appeared to be 60 ft. long by 24 ft. wide. The east and west walls are partly ruined, the four corners or angles of the wall being

still strong and good. The north wall is much broken down; but near the east end is a small round arched doorway. In the south wall, more of which remains, there is a widely splayed window built up. In the south-east corner of the chancel are the remains of a piscina. I endeavoured to clear it out, it being much hidden by vegetation. A few feet from the church, on the south, and within the churchyard, is a small strip of ditch or dyke, lined with bushes and full of water, about 60 ft. long or more, and parallel with the church. I could not gather its use or connection with the church or churchyard. There also appeared in the grass beyond the gravestones, which are near the church, the foundations of either an older boundary wall or of other buildings.

Not far off on the west, at the other side of a by-road, is a curious-looking stone-roofed house, nearly ruinous, close to the road. It appears old externally, but inside it has been much patched and mended with brick. Some of the windows, of which there are several, have been built up. The ceiling, of stonework, is arched, as is also the entrance porch on the south side. In the north wall is a large fire-place. Both the north and west walls are much covered with ivy. On the north side is a pond or well; and in the surrounding field are plainly visible foundations of other buildings. A passing labourer told me it was a farmer's house seventy years ago, and seemed to think that Wespallstown House (Mr. Connor's residence), close by, was older, stating that it was built upon arches, and had been occupied by soldiers once, as he had seen their names written on the walls.

To the north of Balbriggan, on the edge of the sea, is a moat, different from any other in this neighbourhood. The fosse or out-work surrounding the central mound has a distinctly rectangular shape, but of only three lines or sides—the rocks forming the east or open side, not needing protection as did the three sides towards the land. Each of the two corners, north and south, has a small slightly-raised mound, somewhat like the bastions on the Cromwellian camp at Sligo town.

At the Bailey, Howth, in a cutting made for the erection of cottages near the light-house, there have been exposed three or four old kitchen middens, or perhaps rather camp-ovens, in which charcoal and bones have been found. They were 18 or 24 in. below the surface. One of our members, Mr. H. A. Cosgrave, who reported the matter to me, has in his possession some of the fragments of bone found there.

Some of the ruined churches of the North Co. Dublin are in a very neglected condition, and sadly need the removal of ivy. In Ballyboghil, for example, one of the best examples of the Fingallians' churches, and of which much more remains than of most of the others, the east wall is injured by the overwhelming mass of ivy upon it. All the mullions of the large chancel windows have vanished. The sandstone arch itself remains, but almost buried under the ivy. If the local Board of Guardians, as the rural sanitary authorities, could be induced to pay some attention to keeping up properly the old churches in the churchyards under their control, it would be a very good thing. Also the remains of castles, &c., might be perhaps brought under the control of the Board of Works. Where this cannot be done, the private owners of lands on which are antiquarian remains might be induced by representations from our Society to take some care in preserving them.

At or near Donabate, and on the Portrane peninsula, are several remains of castles and churches worth visiting, besides the sand dunes stretching down to Malahide Point. I had the good fortune to pick up a small water-worn flint core near the Martello Tower at Portrane, and, no doubt, a careful search would bring to light like objects.

Canon Twigg, of Swords, asked me to mention to the society that the ancient well of St. Columba in Swords is in some danger of being appropriated quietly by some of the

neighbouring cottiers for their own use, and he suggested that if by subscription the well could be properly protected and marked, it would thus be kept for the public, and become a national memorial of, and a tribute to, this great Irish saint. The Round Tower of Swords is excessively covered with ivy, and needs much clipping.

In coming into Swords from Ballyboghil, I followed from Grace Dieu the old causeway made for the use of this famous nunnery and its pupils. It is at first a very overgrown lane, but joins later on into a by-road, in the centre of which can again and again be seen some of the small cobble stones with which the causeway was originally made.

[Too much praise cannot be bestowed upon gentlemen like Mr. Dix, for drawing attention to such deeply-interesting, but sadly-neglected ruins as those above described. The owners of the island will, it is to be hoped, assist in the preservation of these National Monuments existing on their property.—Ed. I. B.]

THE SITE OF THE "WORLD'S FAIR," AND ITS DRAWBACKS.

THE following extract from the *New York Sun* gives a rather melancholy picture of the state of a city to which many thousands of visitors may be attracted by the monster show to be held next year:—

"CHICAGO was very successful in the way of fire twenty-one years ago, but her relations with the other elements have been less satisfactory. In the matter of earth, it is queer that a city which wants the whole should have so little. Instead of being founded upon a rock, Chicago is built upon a quicksand. Her monstrous, star-ellowing buildings are stilts of steel stuck into a shifting, sinking mass of infirm soil and quaking quagmire. Some day or other she may sink through that treacherous ooze into the dead vast and middle of this earth, a situation probably more healthful, certainly less smoky, than her own. The knowledge that some day or other the bottom will drop out of the town reconciles the inhabitants to the slaughter wrought by the steam and the cable cars. It even heightens activity in real estate speculation, so careless are the Chicagoans of that ultimate downwards movement which may come. The city which rose like an exhalation from marshes, expects to be inhaled in due time. Meanwhile, away with worry and on with the show!

"In the element of air, Chicago is more immediately unfortunate. Her lapse into the under earth may not take place for some time. Her infected and choking atmosphere is offensive in the present. She breathes smoke and reek; noonday is darkness in her streets; catarrh and grip and many diseases of the throat and lungs breed in the immitigable foulness of her air. The insides of the earth must be sweeter and cannot be darker than the manifold garment of fume and filth that envelopes her. The eye is practically useless in Chicago; unfortunately the nostrils have not come to the condition of a rudimentary organ. Chicago cannot see herself, and therefore she keeps up a brave spirit, and thinks well of herself, but

"O, balmy breath, that doth almost persuade
Cologne to take a bath!"

"As for the element of water, Chicago can boast that it matches the air. Our esteemed contemporary, the *Chicago Herald*, honours it with this eulogium:—

"The water is so bad now that it cannot be used with safety. Boiling destroys the animal life in it; but, after standing a few hours, the odours of decomposition are so strong as to create disgust. The breakwater crib should be opened under no circumstances, with the possible exception of a great fire, when additional water might be needed to extinguish it. Not a drop of water taken from any hydrant in the city should be used for culinary purposes, unless thoroughly boiled."

"This was the character of the water which Chicago gets from Lake Michigan, but since Monday last an attempt has been made, if not to improve, at least to change it. The sewage is now discharged into the water supply! We need not point out the accentuation of colour, odour, and consistency given to the Chicago water by means of this unequalled and regular services from the sewers. Those strangers who survive the show may have such perilous escapes to tell of as will make their descendants believe them liars.

"Earth, air, and water in Chicago may be said to be in equilibrium; you can't tell which is the worst."

* Report of the Hon. Local Secretary for Dublin County (North) of the Royal Society of Antiquaries, presented at last meeting of that body, and printed in the *Journal* for July.

THE MOUNDS AT TARA.

TILL the middle of the sixth century, Tara has been regarded as the chief seat of our Irish monarchs. According to our historians, after the death of King Dermot, the son of Fergus, A.D. 563, this royal fortress was deserted. A malediction pronounced by Saint Ruadan, Latinised Rodanus, of Lorha, in the County of Tipperary, was directed against that king and his palace. The chief monuments which had been erected on that Hill are still traceable. Circular or oval enclosures, and mounds, have their distinctive traces. Upon these the principal habitations or offices of the ancient fortress stood.

These Rath or Duns have been minutely described. One called Rath Righ, or Cathair Crofinn, appears anciently to have been the most considerable and largest work upon the Hill of Tara. It is now nearly levelled with the ground, yet its outline is discernible. This is of an oval form. It measures in length from north to south about 850 ft., and it appears, at least in part, to have been constructed with stone. Within its enclosure are the ruins of the Forradh, a very perceptible mound, as also of Teach Cormac, or the House of Cormac. That mound called the Forradh, is of considerable height. It is flat at the top, while it was encircled by two lines of earth-works. A ditch lay between them. In its centre, there is a very remarkable pillar stone. Formerly this stood upon, or rather by the side of, a small mound, which lay within the enclosure of Rath Righ. This was called Dumha-na-n-Giall, meaning the Mound of the Hostages. It was removed to its present site, however, in order to mark the graves of those men who fell in the encounter which took place near Tara Hill with the King's troops, during the Insurrection of 1798.

It is extremely probable, in the opinion of Dr. George Petrie, that this monument is no other than the celebrated Lia Fail, or Stone of Destiny, upon which, in solemn ceremonial, and for many ages, the monarchs of Ireland were crowned by chiefs and people. However, the Lia Fail is generally supposed by antiquaries to have been removed from Ireland to Scotland. This is stated to have been done for the coronation of Fergus Mac Erc. He was a prince of the blood-royal of Ireland. A prophecy had been long credited, that in whatever country this famous stone should be preserved, a king of the Scotie race was destined to reign and to maintain his supremacy. It is asserted, that in certain manuscripts, the oldest of which cannot be assigned to an earlier period than the tenth century, this celebrated stone is mentioned as being then preserved at Tara.*

After remarking upon the want of agreement between the Irish and Scottish accounts, referring to the history of the Lia Fail, and on the very questionable character of such evidence as that upon which the story of its removal from Ireland rests, Dr. Petrie writes:—"It is in the highest degree improbable, that, to gratify the desire of a colony, the Irish would have voluntarily parted a monument so venerable for its antiquity, and deemed essential to the legitimate succession of their own kings."†

Another slight elevation is called Rath Caelchu, which lies to the north-west of Rath Righ, on the Hill of Tara. In the same direction is Rath Graine, said to have been the site of habitation for Graine, the daughter of King Cormac Mac Airt, and the wife of Finn Mac Cumhaill.‡ Fothadh Rath Graine is near it.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

PRESENTATION OF GOLD MEDAL, 1892.

ON Monday, the 27th ult., the presentation of the Royal Gold Medal for 1892, took place at the sixteenth ordinary general meeting of above Institute, the recipient being M. César Daly, Honorary Corresponding Member. The President (Mr. Macvicar Anderson) delivered the following address:—

COLLEAGUES and GENTLEMEN,—It is an appropriate and a happy custom that the last meeting of our session should each year be devoted to the recognition of conspicuous merit and ability in connection with our Art. On the preceding meetings of the session we have been engaged in receiving information from specialists competent to communicate it, on one or other of the varied subjects of interest relating to Architecture. But to-night we occupy more purely unselfish ground. We do not receive. It is our privilege to give. And, although the gift which we bestow is not our own, for it is conferred by her Majesty the Queen, yet the responsibility attaching to it is ours, inasmuch as we are graciously permitted to recommend to her Majesty the individual who in each year we deem to be the most fitting recipient of so high an honour. For forty-four years this distinction has been bestowed by our beloved Sovereign—whose prolonged and beneficent reign will form the brightest and most lustrous page in English history—and I venture to think that on recalling the names of those eminent men which constitute the roll of Gold Medalists of the Royal Institute of British Architects, even our illustrious *confrère* whom we are now met to honour, will deem it no ordinary distinction that his name should be added to such a list. In the responsible exercise of our privilege we have for the last three years recommended to her Majesty the names of Englishmen whose high attainments we were thus proud to acknowledge. But it is one of the happy features characteristic of this royal gift that in our recommendation we recognise no merely local, or metropolitan, or even national limit. The sphere of selection is as unrestricted as that of Art itself—it is the wide world. Wherever merit is conspicuous, be it amid the nationalities of the old, or among the republics of the new world, it is our ambition to recognise and to honour it. This consideration materially adds to the value of the honour. Were our Gold Medalists selected from among British architects only, the distinction, no doubt, would still be great of being one of a small band chosen by their colleagues for outstanding merit; but it would be as nothing in comparison with what it is, when the field of selection embraces the peoples and the tongues of the whole earth. Gentlemen, we have this year recommended to the Queen the name of one who is a veteran in the world of Art, a giant when measured by the products of his pen, one whom we Englishmen are proud to honour as a distinguished Frenchman, M. César Daly. Times there have been when our brilliant neighbours across the Channel were our rivals in more serious avocations than

those which are associated with the arts of Peace. Thank God, those times are gone, let us hope never more to return. Happily when, in later years, they and we have had to fight, it has not been as combatants, but shoulder to shoulder, resisting the oppression of a common foe. Let us rejoice that our rivalries and our contests are now confined to prosecuting such unwarlike pursuits as tend to advance the civilisation of the world. We welcome our distinguished colleague as one who has thus nobly laboured. Few there are who will leave behind them so worthy a record of a long life unsparingly devoted to the advancement of Art. Few, indeed, who can point to such monuments of literary research as are embodied in the pages of the *Revue Générale de l'Architecture et des Travaux Publics*. Few are there who have found time and energy to publish such a series of important architectural works as *Motifs Historiques d'Architecture et de Sculpture d'Ornement*, *L'Architecture Privée au XIX^e Siècle*, *L'Architecture Funéraire Contemporaine*, *Mobilier d'Eglises*, *Cours de Constructions*, and others of less importance, to say nothing of endless brochures and more fugitive essays which have emanated from his prolific imagination. Such a record as this, one would think, would be more than sufficient to satisfy the most ambitious author; but M. César Daly does not seem to be content to enjoy the repose which he has legitimately earned by a long-continued life of work, for I understand that he contemplates the compilation of no less a work than a Dictionary of Architecture. The mere suggestion of such a project being seriously entertained by an octogenarian, more particularly in view of the length of time and vast labour involved in the publication of our own Dictionary of Architecture but recently completed, must surely, while filling us with amazement, command our unstinted admiration. With M. César Daly's permission, I venture, even in his presence, to refer to a few personal reminiscences, because in a career so active and so varied they cannot fail to be of general interest. Born in France in 1811, César Daly was brought at an early age to England, where he was educated, remaining till he was 15 years old, having commenced the study of drawing in his eighth year. It would thus appear that if the training of the boy has any influence on the career of the man, we may claim some credit for the success of our eminent colleague. Returning to France in 1826, he attended classes at the College of Douai; at 16 he joined the preparatory section of the Ecole Polytechnique, and at 17 carried off the first prize for drawing. His desire to enter the Army having been frustrated, he entered the office of M. Malet, an architect at Douai, continuing at the same time the study of higher mathematics with M. Avignon, professor at the Ecole Polytechnique. He was nearly twenty, when, on the advice of his two masters, Malet and Avignon, he left Douai for Paris, and entered the studio of M. Duban. He there acquired a somewhat exceptional position. French architects of that period neglected the study of mathematics, and evinced but little taste for travelling in their own country. Young Daly, on the contrary, lost no opportunity of utilising these means for the acquisition of knowledge. He took notes of all that he met with in his provincial tours that appeared to him to possess architectural interest, and the influence of such studies of old work was soon apparent in his compositions, which drew forth the congratulations of Duban, who, though a revered and respected master, honoured Daly by treating him more as a companion than a pupil. Labrousse also showed him great kindness, and when, in 1839, César Daly established the *Revue générale de l'Architecture*, which has now reached its fifty-second year of circulation, it was Labrousse who designed the frontispiece. In 1843, M. César Daly was appointed diocesan architect of Alby, and fulfilled the duties of that office for twenty-five years. The restoration of the Cathedral of Alby

* See the valuable Treatise presented to the Royal Irish Academy, and read April 24th, May 8th and 22nd, 1837, "On the History and Antiquities of Tara Hill." By George Petrie. Published with plates in the "Transactions of the Royal Irish Academy," vol. xviii., part ii., pp. 25 to 232.

† Mr. Wakeman likewise observes:—"If the Irish authorities for the existence of the Lia Fail at Tara, so late as the tenth or eleventh century, may be relied upon, and their extreme accuracy in other respects is sufficiently clear, the

stone carried away from Scotland by Edward the First, and now preserved in Westminster Abbey, under the coronation chair, has long attracted a degree of celebrity to which it is not entitled; while the veritable Lia Fail, the stone which, according to the early bardic accounts, *roared* beneath the ancient Irish monarchs at their inauguration, remained forgotten and disregarded among the green ruins of deserted Tara."—"Archæologia Hibernica," part i., chap. iv., p. 43.

‡ He is otherwise known as Fingal, celebrated in Ossian's Poems, edited by MacPherson.

which he carried out, is a work of great architectural importance and interest, possessing exceptional merit, and earned for its author the official congratulations of the Minister of Education. The influence he exercised in the district on the mode of construction was considerable, and in 1861, he obtained the decoration of the Légion d'Honneur at the instance of the Archbishop and the Prefect of Alby. M. César Daly was the first, in 1848, to found a society for decorative or industrial artists engaged in designing for trade manufacturers, and he insisted on their admission to the societies representing the Fine Arts. "The society of the future," he said, "will be essentially industrial. Beware of turning aside public sympathy by disdaining those who would embellish trade with the attractions of Art. Let Art, on the contrary, penetrate everywhere, become a necessity, and be responsible, in the widest possible sense, for all distinction and dignity." In the same year he organised a meeting of architects, painters, sculptors, poets, and critics, in order to elect and send to the Constituent Assembly a representative, whose special province it would be, in all circumstances, to protect the interests of Art. The assembled artists, however, could not agree, each department refusing to the others any claim to the title of artist. Narrow-minded jealousy and deplorable ignorance rendered united action impossible, and M. Daly had to be content with recommending each section to meet independently, and appoint delegates to represent the Arts. At the meeting of architects he himself was elected, and we may rejoice that, having no wish to bury himself in a political assembly, he did not accept the nomination, preferring the freer life of traveller, student, architect, and journalist, from which the world has derived such great advantage. He was an original member of the Council of Architecture, founded by Ministerial decree in 1848, for the purpose of examining and approving the design and construction of ecclesiastical buildings, for which a grant was required from Government. He represented architecture in the Mexican Commission established during the Mexican War by Napoleon III., in which that monarch had sought to unite the most eminent *savants* of the time. In 1869 he visited Jerusalem for the purpose of exploration, and during his residence there was able to afford valuable assistance to the officers of the English Palestine Exploration Fund, at that time engaged in prosecuting their investigations. We cannot be surprised to learn that, in consequence of his constant journeys and the engrossing nature of his literary and archaeological and literary pursuits, M. César Daly was compelled, at a comparatively early period in life, to renounce private practice, and to restrict his attention to works confided to him by Government. In the course of his journeys he travelled over the whole of Europe (with the exception of Russia), as well as in Turkey, Asia Minor, Syria, Palestine, Egypt, and the north of Africa, studying monuments and recording notes, most of which are still unedited. He spent three years in America, travelling in search of archaeological remains across the United States, Mexico, and Central America, and was the first to note, in 1856, the ruins of several pre-Columbian cities in Central America, which until then had been almost ignored. A life which has thus, from childhood to old age, been devoted to study and the acquisition of knowledge, must needs present much that it would be interesting and profitable to narrate. I must, however, rest content with the brief sketch—meagre though it be—to which I have been forced to restrict myself, satisfied that at least I have said enough to demonstrate that the career of M. César Daly has been one of constant activity and of generous devotion to the interests of Art. . . .

Addressing the honoured guest of the evening, the President said:—Monsieur César Daly, congratulating you, as I now do most heartily on having produced so many works of literary merit tending to promote or facilitate the knowledge of architecture,

and on having been the recipient of so many honours, deservedly conferred on you in the course of your exceptionally active career, I yet am encouraged to hope that this Royal Gold Medal, which it is my high privilege as President of the Royal Institute of British Architects to present to you [here the President invested M. Daly with the Medal, amidst the applause of the meeting], although the latest, will not be the least highly esteemed by you of those honours which you possess, seeing that it is conferred by her most gracious Majesty the Queen, on the unanimous recommendation of those who are best able to judge of your merits as an author and an architect. Honoured colleague, although you are one of the few now living who have been witnesses of most of the stirring events which have made this century famous, I yet indulge the earnest hope that it may please God to spare you still for some years of useful activity, and that thus the world of Art and of Letters may not be deprived of the advantage which it has hitherto enjoyed, of so unique and so illustrious an embodiment of indomitable industry, ripe experience, universal knowledge, and unquenchable energy.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 149.)

THE next longest and most considerable river within the Queen's County is the Nore, formerly called the Neure. Its rise is from a small spring in the barony of Ikerrin, County of Tipperary, and thence it flows in a north-east course through a level tract of country, and through boggy lands, on which spread the waters of a lake in former times. It enters the Queen's County near Borris in Ossory, and afterwards receives as its first chief affluent the Tonet River, rising on the southern slopes of the Slieve Bloom Mountains; thence it proceeds in a devious course to the village of Castletown, below which it receives the Shannon—sometimes called the Mountrath—River, as passing through that town. Thence it flows southwards through the city of Kilkenny, and joins the River Barrow above New Ross, in the County of Wexford.

The Tonet River takes a solitary and rapid course through the mountain glens and vallies. Notwithstanding the wild scenery along its banks, seldom does the tourist wander to its solitary sources, although the excursion must afford delight and enjoyment to the lover of nature in her most lonely haunts.

The Delour River and its various branches, coming from the upper middle heights of the Slieve Bloom Mountains, through some picturesque defiles and scenery along its course, falls into the River Tonet a little below Coolrain.

The River Erkina, collecting various streams which unite west of Rathdowney, flows thence eastwardly towards Castle Durrow, and passing this town, it falls into the River Nore, near Ballyragget. Its course lies through an interesting and a fertile but a level country; while it presents a beautiful appearance, especially in the demesne near Castle Durrow, and through the County of Kilkenny. The River Goul, coming from Agbmacart southwards, joins it on the right bank.

The River Gully rises in the low-lying bogs near Aghaboe, and afterwards it takes a southern course, until it unites with the River Erkina, about one mile east of Castle Durrow. Some pleasing scenery may be found, especially along its lower bed.

The streams of less considerable volume and course are the Douglas River, which takes its rise in the Sleivemarigue range of mountains; and running eastwardly it falls into the River Barrow, about two miles north of Carlow town. In a south-east course the Fier stream joins it.

The Bouteogue River rises in the mountains near Timahoe, and, joined by a stream coming from Luggacurran, passing north-

wards through Stradbally, it thence turns eastwards, and falls into the Barrow, about three miles north of Athy town.

The Trilugno River rises in low marshy ground south of Maryborough, and passing northwards through that town, it joins the Owenass River, about one mile east of Mountmellick town.

One of the most romantic of mountain rivers is the Owenbeg, which from many united streams flows in deep and rapid courses through the valley in which the ruined church of Dysart Gallen may still be seen. Afterwards, it flows southwards through the beautiful demesne of Heywood, near Ballynakill, and by the old church of Kileronan, until it joins the River Nore, near Rosconnell, in the County of Kilkenny.

The little Derryvarragh River rises near the great Heath of Maryborough, and, taking an eastern course by Morett Castle, it flows through a flat country and joins the River Barrow beside the remarkable Fort of Dunrolly.

Some of the affluents of the Silver River, which flows into the great River Shannon, have their rise on Slieve Bloom Mountains, in the north-western angle of the Queen's County. In all of those streams, the fresh water trout abounds, and eels are numerous, especially in the deep pools, and along the sedgy banks, where the current is slow or nearly stagnant.

Many of the minor streams tributary to the foregoing are hardly deserving of special description or notice. Minnows and small fish are common enough in all of those water-courses.

The only natural sheet of water, which includes many acres, is Annaghmore Lough, on the northern boundary of Tinnahinch barony, and through the centre of which passes the dividing line between the King's and Queen's Counties. It has a measured area of 207a. 1r. and 14p. It lies about seven miles north-west from Mountmellick. It receives the drainage of about 4,000 acres of swamp and bog-land; but, for the most part, it is very shallow, and there was a crannoge on an island within the lough. On the northern side of this island, over one hundred piles of timber were driven down artificially and in regular lines into the soft mould or mud beneath, and some of these found uprooted showed that the ends had been pointed by some sharp instrument—possibly with some small iron hatchets, which have been found near the spot. The average diameter of the piles was only about 5 in., and spaces of about 2 ft. were between each pole. There is a half-submerged space between the island and the shore, strewn with stones and broken querns, while a few piles were to be seen among this *débris*. Closely adjoining, some well-burned bricks, both whole and broken, were mingled with the stones.* Remains of an oak framing over the piles have been discovered, likewise, on that island.

A HIGH CHIMNEY-STALK.

"TOWNSEND's stalk," a conspicuous feature in the Port Dundas, or north-east district of Glasgow, is now in the hands, so to speak, of the renovator. For several weeks past Mr. Ralph Hall, an experienced steeplejack, has been engaged with preliminary preparations for the ascent of the stalk, and these being successfully completed recently, he is now actively engaged from day to day on overhauling and pointing of the structure from crown to foundation. Mr. Hall, who is a man of considerable originality and fertility of resource, has in the course of long experience followed three known methods of making ascents, viz., spiking, laddering, and kite-flying, and he unhesitatingly declares in favour of the latter system as the handiest, the safest and best. The kite he employs in effecting communication between the ground and the sky-reaching pinnacle has a framework in the shape of a St. George's Cross, the covering material being

* See Lieutenant-Colonel W. G. Wood-Martin's "Lake Dwellings of Ireland; or Ancient Lacustrine Habitations of Erin, commonly called Craunoga," part ii., pp. 208, 209.

cotton cloth. By an arrangement of lines the operator has a thorough mastery over the movements of the kite, which, with the greatest ease, he can cause to "walk over" telegraph and telephone wires, chimney pots, or any other construction that may come in its way. The connection once made, and the well-known "bosun's chair" arrangement is found a safe and handy medium of ascending and descending with necessary material. The work at which this expert is now engaged will occupy him about three months' time, the actual surface to be covered being something like 6,000 square yards. This makes the fourth occasion on which Hall has ascended the Townsend stalk, while the other famous chimney in the neighbourhood, viz., Tennant's St. Rollox, has been thrice scaled by him in the prosecution of his calling. The two stalks in question, it may be added, are the two highest chimneys in the world. The Townsend stalk, from the ground level to the cope stone, measures 454 ft.; that at St. Rollox, 435 ft. These figures are for solid masonry alone, but on the summit of Townsend there is one object familiar to Glasgow people, an iron structure in the form of a crown. Looking at it from the street, this lightning conductor—for that is the purpose the crown serves—does not seem a very big affair. Its height, however, is exactly 20 ft., so that in reality the over-all height of this stalk from the ground is 474 ft., or from the foundation 488 ft. On the subject of the swaying of lofty chimneys, Mr. Hall's experience and views are at variance with the popularly received notions. "There is a popular idea," he says, "that a large stalk sways a great deal, and I have heard it said that a chimney of 400 ft. would sway 16 in. This is simply absurd. When on a chimney, you feel the slightest vibration, and I would say half an inch would be all the difference, or perhaps one and a-half inch at the very most; that is my impression."

CORRESPONDENCE.

"OLD DUBLIN."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—There has been much recently written on the subject of "Old Dublin," and not the least interesting contributions to the literature of the subject were those of the IRISH BUILDER—a journal which has long been engaged in this work. It is therefore to be hoped that the very necessary remonstrance which appeared in the last number of your valuable journal, against any further changes in our Old Dublin place-names—the veritable "removing of our old landmarks"—will have some effect in checking the gross vandalism of our so-called "City Fathers." The "wiping out" of a name which has stood from the twelfth century until now, as a place-name in our city, is a very good illustration of the intelligence of these gentlemen. If they must add new names to our streets, let them take those streets which have got *duplicate names*, many of which exist, and where a change of names would obviate confusion, instead of causing it. In any case, there must be some means found to prevent this needless and criminal changing of street names!

There is another old name which might be restored to our city, as it is one of very respectable antiquity, and it is also thoroughly Irish, and for centuries it held a place amongst old Dublin names. It is the name of a place which formerly stood near the Broad Stone, viz., *Glassmanogue*, now called Constitution Hill, and formerly Townsend-street, North. Of this place we read in the "Dublin Annals":—

"1575.—A dreadful plague, by which the city was so depopulated that grass grew in the streets and at the church doors. The Mayor and Sheriffs were sworn in and held their court at *Glassmanogue*, and the Lord-Deputy Sidney kept his court at Drogheda."

The name of this ancient and historic place should be restored. There is hardly a trace of its former existence, except, perhaps, on a few old maps; and it is a change which could be effected with very trifling, if any, inconvenience.—Yours, &c.,

Wac Bhatzajr.

Dublin, 14th July, 1892.

MISCELLANEOUS.

CLONTARF TOWNSHIP COMMISSIONERS.—At the meeting of this board on the 12th inst., matters relative to the laying down of additional flagging and curbing, concreting footpath, &c., and a new road in Annadale Park, were under consideration. Plans for various buildings proposed to be erected in the township were approved of. Questions relative to the proposed erection of a town hall for this important township were also discussed.

A GIGANTIC ENGINE.—The chief motive power for the machinery at the Chicago Exhibition will be supplied by a gigantic engine, to be furnished free by the E. P. Allis Company, of Milwaukee. The engine will be furnished as part of the company's exhibit, upon a special contract providing that it shall be used for the motive power, and that no other engine of equal size shall be exhibited. It will be an engine of the quadruple expansion type, and will be of between 3,000 and 4,000 horse-power. Compared with this engine, the big Corliss that was exhibited at the Centennial Exposition is almost a dwarf. In 1876 the Corliss was considered one of the wonders of the Exposition, but its builder rated it at only 1,400 horse power, or less than half the one being built by the Allis Company.

ENCAUSTIC TILES.—Messrs. Carter and Co., Encaustic Tile Works, Poole, Dorset, are makers of glazed, encaustic, enamelled, and embossed art tiles, mosaics, painted panels, frescoes, &c. Their "Petrus" tiles are suitable for all flooring purposes, and are made in five or six colours, and in various sizes and shapes. They have a large variety of geometrical floor tiles, from which very effective designs may be arranged by the introduction of encaustic and vitreous coloured tiles. In mosaics the pieces are very small, and ornamentation from the most simple to the most elaborate kind can be carried out, while lettering, figures, coats-of-arms, and emblems and devices of all kinds may be introduced with wonderful facility and effect. Messrs. Carter and Co. have tiles specially adapted for walls of butchers' shops, dairies, fish and poultry shops, bars of hotels, and restaurants. They are cool, ornamental, and always clean. This class of tile is very serviceable for hot climates, where it is used for many purposes in addition to those enumerated. They are making a special line of their printed tiles, which certainly are very creditable productions. They seem to combine the harmonious colourings of enamelled tiles with artistically drawn outlines. There is an absence of the crude colouring so often met with in ordinary printed tiles. They are made chiefly in 6-in squares, and are easily fixed for hearths, cheeks, &c. The firm have lately made a new departure in faience tiles, which are very artistic in design and execution. In this make they are supplying chimney-pieces, columns, caps, capitals, friezes, &c. Being very near to Southampton, and having water communication with that and other ports, Messrs. Carter are advantageously situated for an export trade.—*British Trade Journal*.

SHEARING IRON AND STEEL.—While engineers are familiar with the action of other forces upon metals generally, it is commonly held that they are yet much in doubt with regard to shearing. Hydraulic machinery is claimed to be the only available kind for accurate shearing tests. From cards taken it is found that it requires more power to cut iron than steel of the same dimensions, and less power for both metals than is generally supposed. This difference in the behaviour of these two metals is attributed to the brittleness of steel compared with the tougher iron. A case is cited of a breaking pin in a compressing machine which persistently sheared off very suddenly, sometimes even under a strain less than its elastic limit.

BELAYSSE MONUMENT, ST. GILES'S-IN-THE-FIELDS.—The Society for Preserving the Memorials of the Dead have, as we understand, undertaken to repair the Belaysse monument, against the east wall of St. Giles's-in-the-Fields Church. It commemorates the Royalist John, son of Thomas, first Viscount Fauconberg, created Baron Belaysse, of Worlaby, County Lincoln, on January 27, 1644, his three wives, and several of his children. A long inscription, much worn, recounts his services to Kings Charles I., Charles II.,

and James II. His third wife, Lady Anne Paulet, was daughter to John, fifth Marquis of Winchester, who so long defended Basing House in the Civil War. Lord Belaysse died on September 10, 1689; his second wife was buried, in 1662, beneath the altar-table in the former church, and re-interred in the new churchyard, in a vault under the north gate. In No 1,369 of the *London Evening Post*, for August 24-6, 1736, we read:—"Last week was finished a very lofty and costly Monument of most curious Workmanship, and affixed to the East Wall of the Church, in the Church-yard of St. Giles's-in-the-Fields, Middlesex, on part of which being of White Marble, in black Letters, under a Coat of Arms, impaled, of Belaysse and Powlet, is the following Inscription. . . . A drawing of this, which was set up by Lord Belaysse's two surviving daughters; with a copy of the inscription saying it was erected in 1736, is contained in the *Gentleman's Magazine* for August, 1817. The shield (its charge, and the coronet above, almost effaced) is carried on a high wall-slab, in front of which is a sarcophagus supported by two feet upon a high base, and finished at the top with a pediment. Now it is worthy of notice that Hatton, in his "New View of London" (1708), describes a monument as then within the chancel of old St. Giles's (built 1623, and pulled down 1730) thus:—" . . . a black and Marble white Monument, with Columns and Entablature, of the Ionick Order. And these Arms: A Chevron betw 3 Flowers de lis, with a Crescent for a difference [Belaysse] Impaled with 3 Swords in pile [Paulet]. Also these Arms [since removed: A Fess betw 3 Cross Crosslets. And this Inscription. This Monument was erected, Anno 1670 [sic], in memory of the Honourable John, Lord Belaysse, Baron Worlaby, second son of Thomas Lord Viscount Fauconberg, his Wives and Children." . . . Hatton gives, but not quite accurately, all the inscription; Maitland, 1757, faithfully copies Hatton. John Parton's book, 1822, upon the hospital and parish of St. Giles, rehearses Hatton's words, adding in a note, "this monument is still remaining, and is on the outside of the church, against the east wall of the chancel." Parton cites "1670" as the date of Lord Belaysse's interment; and does not point out that the memorial we refer to differs from that described by Hatton, save as to its upper shield and lettering. And whilst we do not find in some of the later hooks upon London any mention of a Belaysse monument here, the earlier chroniclers say nothing to indicate,—except by the comparison we make above,—that, as seems to be the case, a former memorial was altered to, or replaced by, the one of 1736.—*Builder*.

A NEW AMERICAN PAVEMENT.—A new pavement is being brought out; its foundation is steel plates laid in sand. These plates are 3 ft. long by $\frac{1}{4}$ in. thick, and strong enough to stand a tensile strain of 50,000 lb. to the inch. They are flanged on the sides and laid from curb to curb across the street. The flanges are pinned together, and the plates perforated for drainage. The pine blocks are interchangeable, and grooved to straddle the plate rib securing the rib joint. Repairs and openings can be replaced without damage to the pavement, and old and worn blocks can be exchanged for new. All swelling is provided for, and it can be laid rapidly, presenting, when complete, a smooth unbroken appearance. It will last sixteen years, when the whole surface can then be recovered without disturbing the foundation. Sections of this pavement will be laid in Chicago and St. Louis.

HOUSE DECORATION AND PAINTING.—Proprietors of house property should write to Carson's, Bachelors-walk, Dublin, for pattern lists of paints, varnishes, and other materials for decorating. Pure, genuine materials—the best and most durable in the world,—all prepared so that an unskilled person can apply them. One hundred shades of colours.

Illustration.

CARVINGS, WESTMINSTER ABBEY.

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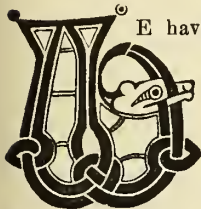
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THE IRISH BUILDER.

VOL. XXXIV.—No. 783.

THE MOURNE MOUNTAIN
WATER SCHEME.
FOR BELFAST SUPPLY.

PLAN BY L. L. MACASSEY, C.E.



There have been favoured by the author with some particulars as to the scheme for additional water supply to the City of Belfast, proposed by him, and adopted by the Water Commissioners. The paper is accompanied with a tracing of Map of South County Down, showing proposed line of pipes, &c.

During the past ten years the City and District Water Commissioners of Belfast have carried out several important works, by way of fully developing the resources of the districts from which the existing supply is drawn. This has been rendered necessary by the steady increase in the demand for water for domestic and trade purposes. At the present time, two sets of filtering works are under construction, for the improvement of the high level supply from Stoneyford and the low level supply of water from Woodburn. The cost of these works will amount to some £70,000.

All that can be done by way of forming additional reservoirs in the existing catchments, has been accomplished; and about nine months ago, the Commissioners instructed Mr. Macassey, their principal engineer, to examine and report upon the quantity of water now available from existing sources, the probable demands of the city and districts for the next twenty years, and also what sources of supply are available within a reasonable radius of Belfast.

In accordance with this remit of the Commissioners, Mr. Macassey examined all the possible catchments in Antrim and Down, and, after several months spent in these investigations, he presented a very exhaustive report on the whole subject. Some thirteen districts were examined and described. The extent of the catchment and quantity of water likely to be obtained were first set out. Then a detailed analysis, by Mr. R. Barklie, F.C.S., was quoted in each case. Next, the necessary works, and an estimate of the total cost. The report contains in a condensed form a great amount of information.

The last scheme detailed by Mr. Macassey proposed to take the future supply for Belfast from the Mourne district, in the south of County Down. The Mourne range rises to a height of about 3,000 ft. over sea level, and the upper catchments are mainly granite slopes, with very sparse vegetation. A supply of water, amounting to over 40 million gallons a-day, can be obtained in the Mourne district, and these figures must be regarded as fully covering all the future possible demands of Belfast in the way of water supply.

As regards the quality of the water, the Commissioners obtained the advice of Mr. Barklie, F.C.S., and Professor James Dewar, F.R.S. Both of these gentlemen personally examined the Mourne district, and took a

large number of samples, in various kinds of weather, for the purpose of analysis. Their reports were most favourable. All the waters examined were of the highest class, and the whole district was pronounced to be unsurpassed as a gathering ground for water.

Mr. Macassey strongly advised the Commissioners to adopt the Mourne scheme, and, after full consideration, his recommendation has been unanimously adopted. Instructions have also been given to proceed with the necessary surveys and plans, so that application may be made for Parliamentary powers in the coming session.

The leading features of the scheme may be gathered from the following outline. First of all, the waters of the Kilkeel or Silent Valley and the Annalong Valley will be utilised. The area of these two catchments amounts to some 10,000 acres, but they form only a part of the whole gathering ground. The quantity of water to be taken as a first instalment will be 10 million gallons per day, which, with the present supply to Belfast, will bring up the total to 20 million gallons per day. A storage reservoir, to contain about 2,000 million gallons, will be constructed in the Silent Valley, where a suitable site is available. The embankment will be so formed as to be capable of being afterwards raised to a height of 85 ft., with a storage capacity of about 3,000 million gallons. The reservoir will require but a short embankment at one end, and the water surface will be about 200 acres. From this reservoir a conduit will carry the water to the Annalong Valley, where an intercepting weir will be erected, and, by means of this, the fine-weather flow of the Annalong river can be obtained. The reservoir necessary to fully utilise the water from this second gathering ground will not be proceeded with for some years to come. From the Annalong weir the conduit will skirt the base of the mountains, and then pass Castlewellan, Dromara, and right away to Belfast to a service reservoir some three miles from the city boundary. Cut and cover construction will be adopted for the conduit for about two-thirds of its length, and the balance will be laid in cast-iron pipes of 3 ft. 6 in. diameter. In total length the conduit is to be about 45 miles. The service reservoir will hold some 70 million gallons, or about one week's supply, and the draw-off will be about 800 ft. over Ordnance datum—a level quite sufficient to command the highest districts of Belfast. It is also proposed to make the gravitating portion of the conduit large enough to carry the second instalment of 10 million gallons per day, or 20 million gallons per day in all; and when in the future an additional 10 million gallons per day is required, the Silent Valley reservoir embankment will be raised, the Annalong reservoir constructed, and a second line of pipes laid in on those parts of the conduit where required.

The works required to bring in the first 10 million gallons per day (including a new pressure main of 3 ft. diameter through the city from the service reservoir), will cost, according to Mr. Macassey's estimate, in all £750,000, or about £75,000 for each million gallons per day; but the second instalment, when it is required, will cost a much lower rate. The Welsh scheme has cost Liverpool about £160,000 per million gallons per day, while Birmingham proposes to spend even a higher rate to bring in the water from the Claerwen gathering ground.

This important step of adopting the Mourne scheme has been taken by the Belfast Commissioners only after the fullest consideration, and it would appear that they have the public with them in the matter.

The scheme will give an ample supply of first-class water—so good, in fact, that filtration will not be required; and the outlay appears moderate, when compared with the cost of other supplies.

Present population supplied, 280,000.

Consumption per head per day

(domestic) 28 gals.

Trade supply, about 8 „

Total consumption, 36 gals.

ANCIENT IRISH MONUMENTS.

VARIOUS monuments still remaining in Ireland are alluded to in many instances by ancient writers, as existing in their time, and even then probably bearing evidences of a very remote antiquity.

Several of the Irish moats, and these especially the most ancient, assume the character of Duns, and they rise in a conical shape to a considerable elevation. They are usually level on the top.¹ Sometimes those Duns have spiral pathways artificially formed, and which lead from the bottom to the upper level. A remarkable instance of this form is to be seen in a moat, near the town of Ballyroan, in the Queen's County. Sometimes those elevated moats are oval or slightly irregular in shape, and such raised ridges are usually called Drums, which seem more closely to correspond with the British harrows. These hillocks or mounds have been noticed by several antiquarian writers. To illustrate this subject, we may refer to an oval-shaped barrow at Ha' Hill, described by John Stuart,² which has its counterparts in different localities throughout Ireland.

In various parts of the country, the Megalithic circles disclose very extraordinary arrangements, and they are popularly attributed to the Druids. On this subject, a writer well conversant with the historic records of Ireland, has dilated at some length.³ The circular upright stones are numerous throughout the country, and some of these objects have not yet been sufficiently described. Near Killarney, there is a remarkable specimen of that class of antiquities. We are at a loss for proper and reliable investigation regarding their origin and purpose; but they are supposed to have some connection with pagan worship. Whether they had relation to Crom Dubh and those barbaric ceremonies associated with his adoration, or whether they represented some rude symbols of infant science or emblematic conceptions, has been debated, but with unsatisfactory issue.⁴

¹ For curious drawings and illustrations of such objects, the reader is referred to Wright's "Louthiana," which was published in the middle of the last century. London 1758, 4to.

² See "Proceedings of the Society of Antiquaries of Scotland," vol. ii., p. 371.

³ See John D'Aiton's "Essay on the Antient History, Religion, Learning, Arts, and Government of Ireland," in "Transactions of the Royal Irish Academy," vol. xvi., part i., pp. 1 to 280.

⁴ In reference to Crom and his origin, Henri Martin thus says:—"Mais il y a fort à croire que les Scots (the Irish) n'avaient point apporté avec eux ce dieu, qui est une divinité cosmogonique et *scientifique* bien plutôt, qu'heroïque. Crom, la courbe génératrice du cercle, l'éternel, pere du temps, qui apparaît entouré d'un cercle de douze dieux inferieurs, comme une Année divine entourée des douze mois, des douze maisons du soleil, Crom est, selon toute, le legs d'une ancienne religion savante que les héros Scott's ou Milesiens ont reçue de leurs devanciers. Nous croyons, M de la Villemarqué et moi, qu'il se retrouve en Bretagne quelques vestiges de cet antique nom. Crom serait donc le principe divin actif, conçu comme engendrant l'évolution du temps, de même que Bel ou Belenos serait Dieu conçu en tant que principe lumineux et solaire."—*Études d'Archeologie Celtique*.

In the townland of Edenderry, near Drumbo, in the County of Down, is a very perfect piece of antiquity, called the Giant's Ring. It is circular; its diameter is about 200 yards. In the centre is a cromlech, constructed as these generally are, one larger stone resting upon others; it was formerly planted with trees, but it has unfortunately been ploughed up, and nearly destroyed. The cromlech in the Giant's Ring in Drumbo is composed of eight stones of basalt; it stands about 6 ft. from the ground to its highest point. The cross stone on the top is nearly circular, about 6 ft. in diameter, and varying from 6 in. to 10 in. in thickness. This interesting remnant of antiquity, situated on an elevated plane, near Drumbo Church, has been injured by a former occupying tenant of the farm, only a part of the parapet having escaped the plough, which has converted its once abrupt sides into smooth slopes, and filled the enclosed area with some of the soil that composed it. The interior was afterwards a fine field of corn, and its luxuriance nearly hid the cromlech in the centre. The circumference of the Ring measures around the top of the parapet 2,161 ft., and the parapet is from 60 ft. to 90 ft. at the base, and it varies from 10 ft. to 14 ft. in height. Nothing remarkable has been dug up in the interior or near the cromlech, which is supported on three upright stones, and it slopes to the north-west. It is said, that a person standing in the centre, before the Ring was injured, could see nothing but the surrounding bank of earth and the sky over head.

The *bactylia*, or animated stones of the Phœnicians,⁵ mentioned by Pbilos Byblius,⁶ are thought to have had counterparts in Ireland. For a further account of these *bactylia*, the reader may consult Bochart.⁷ He alludes to those moving or animated stones. Had Bochart rightly considered their characteristics, he would probably not have changed them by a conjectural emendation into anointed stones. Our rocking stones are thought to be some of those *bactylia*, according to certain writers.

The art of constructing stone bridges over rivers was known at an early period,⁸ while many names of places are simply or in composition called Drochad, which has the signification "bridge." Drogheda, over the River Boyne, is an example of such etymological origin. One of the Iona Abbots, who ruled there from A.D. 726 to A.D. 752, was called Cilline, surnamed Droichteach, or "the bridge-maker," probably from some experience acquired in the art of such construction. Bridges are mentioned in our oldest authorities, and doubtless many of those had been built with stone.

In various parts of Ireland, rude standing blocks of stone—some of great height—are to be seen; and these are thought to have been monumental or historically commemorative. The *menhirs* of France are upright

stones, many of which are to be found there, and yet standing.⁹

The bee-hive shaped houses in Ireland were rudely constructed, and many specimens are yet to be seen, especially along the western and southern coasts. In remote parts of Scotland, remains of Picts' houses have been found;¹⁰ and these appear to have features in common with the habitations of our Irish aborigines.

ST. MICHAN'S ROMAN CATHOLIC CHURCH, DUBLIN: ITS HISTORY, PAST AND PRESENT.

(Continued from page 156.)

The Granary of St. Mary's Abbey.

On the north-western side of George's-hill, and south side of Cuckoo-lane, is situate a large void space, or yard, popularly known as "Bayly's Timber Yard," so called after the late Mr. Elisha Bayly, who, for upwards of half a century, carried on the business of cabinetmaker and timber merchant. Underneath this yard is a large crypt, or vault, 122 ft. long, varying in width from 15 ft. to 32 ft., and about 14 ft. in height. It is approached from the yard by a flight of stone steps, about seventeen in number, at the south side. At the bottom of these steps is a vaulted hall, 6 ft. square, and at the western end a well, about 8 ft. deep, approached by stone steps, which is now dried up and has been so for many years past; although, strange to say, the water again sprung up about two years ago for a brief period, and again disappeared. The crypt is traditionally said to have been a storehouse for the poor in times of war and famine, belonging to, and supposed to lead from, George's-hill to St. Mary's Abbey. The original entrance to this singularly constructed place was by a narrow circular hall and rather mysterious staircase at the eastern end from George's-hill, where there are traces of it yet extant in the crypt below. It is thought that some centuries ago, when the bed of the River Liffey was shallow, or in some parts not more than a stream, there was from this, and from St. Mary's Abbey, a subterranean passage by which the monks of the Abbey walked unobserved in procession, on different special festivals, to the Priory of the Holy Trinity (now Christ Church Cathedral). The most remarkable feature connected with this supposed ancient crypt is, that there are traces of three passages (now built up), diverging towards different directions:—(1) South-west, supposed to lead to the Dominican Priory, on the site of which stands the present Four Courts;* (2) north, *via* Anne-street, towards the "Abbot's Garden, or Anchorite's Park," now the King's Inns, Henrietta-street; and (3) south-east toward St. Mary's Abbey. So far tradition. But from a minute inspection and survey made on the 27th ult. by Messrs. Thomas Drew, F.R.S.A.; Spencer Harty, City Engineer; Wm. C. Wilson, C.E.; and G. C. Ashlin, R.H.A., accompanied by

the Most Rev. Dr. Donnelly, Bishop of Canea; Rev. R. F. Conlan, P.P. of St. Michan's; Rev. Wm. Reynell, B.D., M.R.I.A.; Rev. E. T. Quinn, P.P. of St. Audoen's; Edward Evans, R.S.A.; and Peter Roe, of this journal, they arrived at the conclusion that, although the crypt bears some appearance of old age in portions of it, yet it cannot pretend to hold any claim to the antiquity of the pre-Reformation period. They are also of opinion that the greater part of it is about 200 years built, with additions made in the early part of the last century.

From the survey made by the above-named professional gentleman, we shall endeavour to give a description of these mysterious vaults. As they bear a strong resemblance to an ecclesiastical crypt, we shall, for illustration sake, describe it as such, and divide it into nave, chancel, and choir. Its length is 122 ft., which may be divided as follows:—

| | ft. | in. |
|---|-----|-----|
| Length of choir | 15 | 0 |
| Do. of Chancel | 27 | 6 |
| Depth of chancel arch, dividing nave from chancel | 5 | 6 |
| Length of nave | 74 | 0 |
| Total, | 122 | 0 |

The width of the chancel and choir is 32 ft., and in height from floor to ceiling about 11 ft. The nave, which seems to have a modern addition, is 74 ft. in length, 18 ft. in breadth, and about 15 ft. in height. The original nave was only 44 ft. in length, and has 5 circular-headed bays on each side, and the width of nave between bays is 24 ft. What appears to be the new addition to the nave at the western end is much narrower than the original part, being 30 ft. in length, and 15 ft. in width. Mr. Drew accounts for this variation, by surmising that a later occupant of the premises extended the crypt beyond the old boundary of the holding adjoining the premises in Pbrapper-lane, and in his planning he narrowed the western portion, to retain a space on each side for passage-way or windows, and access to the well entrance by the flight of stone steps alluded to above. The entrance into the new portion of the nave from the hall at the bottom of the stairs is by a circular-headed doorway, 5 ft. wide. The chancel arch (which is groined) springs from the floor level, and is the same width as nave, but is 4 ft. lower than the crown of nave.

On examining an old lease of the above premises, on which is a map or terchart made in 1759, we find that they formerly belonged to a Mr. Montgomery and Captain Chenevix, who then leased them to a person named Swanne, and are described as bounded on the east by George's-hill, on the north by Cuckoo-lane, on the west by "St. Werburgh's parish lands," and on the south by Mr. Meade's holding; and the vaults are mentioned on it, but not described.

The site under which is the crypt was originally the northern boundary of the gardens belonging to the Dominican Priory, described in our last number, but subsequently granted to the Benchers of Kings Inns.

Duhigg says that "in 1639 Ormond Market was then part of the gardens of Kings Inns; when laid out to its present use after the Restoration, its original name was *New Market*, but when the river was quayed in, the Viceroy's [Ormond] name extended to both. About the year 1634 the summer houses were new built and it thus resembled the Temple Garden toward the river, and

que, Notes et Voyages dans les pays Celtiques et Scandinaves: Chap. vii., Sect. I., p. 275.

⁵ To these, Sanctionation alludes.

⁶ See apud Eusebius, *Præparatio Evangelica*, Lib. i., cap. 10.

⁷ See "Chanaan," Lib. ii., cap. 2.

⁸ Thus in Duaid Mac Fribis' Genealogical Work, the following occurs:—"Aodh Roin had five sons, *Fiacha*, one of them, a *quo* Clann Fiachaidh at Dunda-leth-glas, *Dunpatrick*, was he that made *Droichead na Feirse—the Bridge of the Feirsad*—and *Droichead mona Daibh, et alios*. He got the name of black *Fiacha of the bridges*." *Fiacha* died A.D. 735, according to the Four Masters. His father was king of Ulidia, and must have lived at the ancient citadel of Dundrum, and we are further informed that *Fiacha* got a whale (stranded, no doubt, somewhere about Dundrum Bay, by the formidable *Toun Hurse*, with three golden coloured teeth. He gave one of them to the *artisan* who built the bridge, and he gave the other two to ornament the reliquaries of the province. The exact site of the *Farsad bridge* is perhaps not yet known.

⁹ See "France Pittoresque," Tome i., Ile et Vilaine, p. 83.

¹⁰ See Excavation of a Pict's House, Stensall of Kergord, Zetland, by D. D. Black, in "Proceedings of the Society of Antiquaries of Scotland," vol. ii., pp. 452 to 454.

* At the time of the Fenian Insurrection, in 1867, the police discovered a large number of pikes and pike-staffs concealed in a vault underneath a carpenter's yard at the rear of the house No. 17. This vault, which was then accidentally discovered by sinking a pit to conceal the arms, corresponded with those in Bayly's yard, and was ordered by the police to be built up at the eastern end. The carpenter's yard is now in ruins, and we have no means of examining the vault, which seemed to take from hence a south-westerly course.

Gray's Inn, where it fronted Cuckoo-lane, and the adjacent Villages of *Grange Gorman* and *Glasmainoge*."

The Granary and other of the above mentioned places are described in a Deed or grant made in 1611 by King James the 1st to Thomas Hibbotts and William Crowe Esqrs. of "a mansion or house called the Abbott's Lodging, within the site of St. Mary's abbey, Dublin; a garden called the Abbott's garden; a large orchard called the Common Orchard; the Ashe Park, a granary called the Garnell over the outer gate; 4 messuages lately called the Abbott's stable, lying on the western side of the south gate near the river Liffey, all within the precinct; the Anchorist's or Ankaster's park without the wall, N.—the site of the Church of the said monastery, the Churchporch, Churchyard, the dorture, and a ruinous tower and a court in the western part thereof, and a small piece of ground called Shillingfoord's Garden, all within the precinct, and all other hereditaments within the said site which were ever in the tenure of Robert Piphoe, Esq., and Sir Edward Waterhouse, Knt., to hold, &c.

Newgate.

The next place of note in this parish are the remains of Old Newgate Prison, and the City Court-house. Previous to the building of this prison, the gaol was an old castle on the city wall over the gate leading from Outpurse-row to Thomas-street, which was called *Newgate*, from its being the last city gate that was built. From this gate the old prison derived its name, which was also attached to the new gaol in Green-street, the foundation-stone of which was laid in 1773. The building, which was after a design of Thomas Cooley, the architect of the Royal Exchange (now City Hall), was faced with granite stone brought from the Dublin Mountains, and cost £16,000; it was opened for the reception of prisoners in 1781. It was a large quadrangular pile of three storeys, extending 170 ft. in front and 127 ft. in depth, having at the external angles four round towers, with loop-holes to admit light. The front, facing Green-street, consisted of three storeys—the lower rusticated, the two upper perforated by windows divested of ornament; the centre was surmounted by a triangular pediment, and in front of the upper storey of this part of the building were the platform and apparatus for the execution of criminals. In the front were also the guard-room, hospital, common hall, long-room, and the chapel. Here were imprisoned and executed several of the United Irishmen in 1798; the followers of Robert Emmet in 1803; and John Mitchel and other of the Young Ireland party were imprisoned in 1848. In 1863 it ceased to be used as a prison, and was soon afterwards partly demolished. All that remains now are the lower storeys of the walls and towers.

The Sessions House,

Better known, perhaps, as Green-street Court-house (the first stone of which was laid in the year 1792, by Henry Gore Sankey, then Lord Mayor of Dublin), was opened in 1797. The front consists of six three-quarter columns supporting a triangular pediment with a plain tympanum; between the columns in the second storey are circular-headed blank windows, and in the lower storey blank windows, to preserve uniformity; the doors on either side are approached by a flight of steps, which are continued along the

entire front, and terminated by a broad platform, from which the columns rise.

The interior of the Court-house is lofty and spacious; in the centre, in front of the bench, is a table for the examination of witnesses, the dock, &c.; on each side, and in front, is a gallery. The ceiling which is flat, is supported by four large pillars of the Ionic order. The ventilation of the court, when crowded, is found anything but satisfactory. In this court were held all the State Trials of 1798, 1803, 1848, and 1867.

The New Fish and Vegetable Markets.

We shall now conclude the history of this parish with a brief description of the above new building, which, in course of time, we venture to say, will rank foremost with many of our modern buildings. They stand upon an area which had been one of the most congested districts, and the most thickly-populated in that locality. In clearing the site for these Markets, all the houses were taken down on the south side of Mary's-lane, from the corner of Boot-lane to Bull-lane; all Fisher's-lane and Bull-lane, and about half-a-dozen houses in Boot-lane (now East Arran-street) as far as the old "Boot Inn," from which that street took its name.

The New Fish and Vegetable Markets are situated in Mary's-lane and St. Michan's-street (the latter formerly Fisher's-lane), having an elevation in both of these thoroughfares. The general style of treatment may be classed as Romanesque. The elevation in Mary's-lane shows a central gateway, flanked with detached Corinthian columns, of limestone from Ballinasloe quarry, having side entrances for pedestrians. On either side of these entrances are six granite piers, standing on a chamfered base, and finishing on top with a moulded cap, from which spring semicircular arches of moulded red and yellow brick, finishing with a hollow chamfered hood-moulding. At the intersections of the latter are carvings typical of the trades transacted inside. The tympanums over arches are faced with terracotta diaper in squares of 18 in., which is treated in a very bold manner with conventional foliage springing from a central boss, each boss being connected with the adjoining one by means of a bold bead having V-shaped groove on face, thus forming a continuous pattern over the entire surface. The wall is surmounted with a moulded brick and stone cornice, finishing with plain blocking. Over the principal entrance, and facing Mary's-lane, is placed the City Arms, on a shield, being supported on either side by two female figures. The side entrances have moulded brick jambs and heads, finishing with terra-cotta frieze and cornice. Over these doors are placed elliptical openings filled with hammered ironwork. The height of the walls at this point is 21 ft. 6 in., while from ground to heads of group of statuary it is 36 ft.

Secondary entrances are provided at each corner, where the angle has been cut off, and a gateway formed. The gateways are ornamented at side with pilasters in the Doric style, standing on a pedestal and surmounted with entablature and pediment. The pilasters and moulded work are of limestone from Tullamore, with wall surface and tympanum of red brick. The space between piers is filled in with brickwork formed into panels by means of red brick jambs 14 in. wide, having ovolo mouldings at sides and

top, and chamfered corso at bottom. County Dublin brick is used in the filling-in between these jambs, and a finish is made at springing of arches by a 9 in. band of red and yellow brick, over which is a 6 in. granite cill. Six openings are filled with hammered-iron grilles, and a like number filled with red and yellow brick.

The elevation towards St. Michan's-street is treated in a precisely similar manner to that in Mary's-lane, except that it has seventeen arches in length, and the principal entrance is surmounted with a pedestal instead of statuary.

The internal elevation has been designed with a view to avoid projections as much as possible; and surface decoration, by means of judiciously-applied masses of varied-coloured local bricks, has been relied on for effect. A dado of glazed brick, 5 ft. high, runs round the building, and the plain surface is relieved by bands of coloured bricks.

Longitudinally the Market is divided into eight, and transversely into nine, bays, by rows of cast-iron columns, which support the roof. The columns stand on the average 19 ft. 6 in. over ground line, finishing with moulded base and wrought-iron foliated cap. Springing from the top are a series of curved beams, which support the ends of principal rafters carrying roof. The principals have a clear span of 41 ft., and are constructed of wrought iron, having cleats riveted on back to take continuous wood purlins, to which is fastened wrought, rebated, and V-jointed sheeting covered with roofing felt, on which the slates are laid.

The central portion of roofs, for a width of 15 ft., is occupied by a lantern, glazed on top; while the sides, which stand 2 ft. 9 in. over roof-line, are filled in with zinc louvres. One-half of the roof from foot of lantern to gutter is slated, while the remainder is glazed with $\frac{1}{2}$ in. ribbed plate glass, thus securing ample light. Ventilation is effected by means of the louvres, arched openings to principal entrances, upper panels of entrance-gates, and twenty semicircular opes, 8 ft. 3 in. wide.

The entrance-gates and doors are made of oak, having wrought-iron grilles in upper panels.

The floor of Market is formed with cement concrete, having granite curbing; and the roads are finished on surface with a layer of Limmer asphalt, laid with a regular fall to gullies. The total covered-in area of Markets is $1\frac{1}{2}$ acres. Hydrants of a sufficient number are provided for supplying water for washing, &c.

On the south side are the stores, refreshment-rooms, offices, latrines, &c.

The plans were prepared by Mr. Spencer Harty, City Engineer.

The contractors, Messrs. Connolly and Son, Dominick-street.

The general ironwork throughout was supplied by Messrs. Lysaght, Bristol.

The ornamental ironwork, including grilles, &c., are by Messrs. M'Gloughlin and Son, Great Brunswick-street.

The statuary over main entrance, by Messrs. Harrison and Son, Great Brunswick-street.

INFRINGEMENT OF THE BUILDING BY-LAWS.—In the Northern Divisional Police Court, Mr. John Ryan, Broombridge House, Cabra, was fined £5 and costs, for permitting the new premises, 105 Phibsborough-road, his property, to be occupied, without first obtaining the Borough Surveyor's certificate showing that they were in a fit state for habitation.

FOLDING TABLES AND SEATS.

Mr. Charles Sloper, of Devizes (Wiltshire, England), has recently introduced and patented some tables and seats of a very novel kind. They are chiefly intended for use in public buildings, assembly-rooms, tents, &c., but for caterers and refreshment contractors they should prove highly valuable and economic.

As will be seen from our engravings, the tables and seats occupy, when folded, very

small space, and this is a great recommendation where the minutest saving of it is a desideratum.

In Fig. 1 is illustrated Mr. Sloper's patent folding tables, which, it is claimed, will last twice as long as ordinary folding tables, and will carry far heavier weights, as all strain is taken from the hinges, and the whole braced firmly together by the patent castings. In appearance they exactly resemble ordinary tables, and, being made almost entirely of wood, they are very light in weight. There

are no loose parts, and the folding is remarkably simple. These tables are particularly suitable for refreshment contractors' and caterers' use, as any number can be placed end to end, to form long tables for public dinners, parties, &c. They are firm and rigid, and will not bend down in the middle.

Fig. 2 represents the mode of folding these tables.

Referring to "Seats," Fig. 3, it will be seen that these are by far the most compact

SLOPER'S PATENT
FOLDING
TABLES

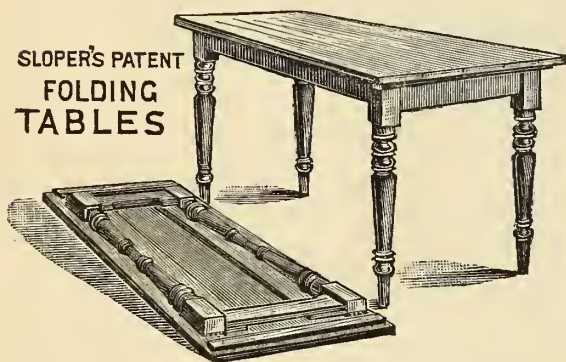


Fig. 1.

SHOWING METHOD
OF FOLDING
SLOPER'S PATENT
FOLDING TABLES

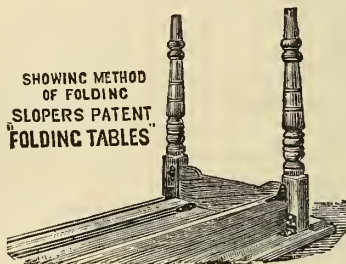


Fig. 2.

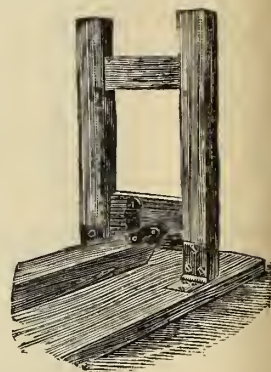


Fig. 6.

portable or folding seats ever introduced, combining lightness in weight with substantialness to withstand rough treatment. When in use, they cannot, owing to a simple safety arrangement, possibly collapse, and

they are absolutely firm and rigid. There are no loose parts, and the seats are quite free from the irritating rattling noises which proved such deterrents to the use of many seats previously introduced to public favour.

These seats can be folded and stacked (as shown) in a remarkably short time, when the space is required for other purposes. A stack of 20 seats (to seat about 100 persons) stands only 5 ft. high by about 17 in. wide; the pro-

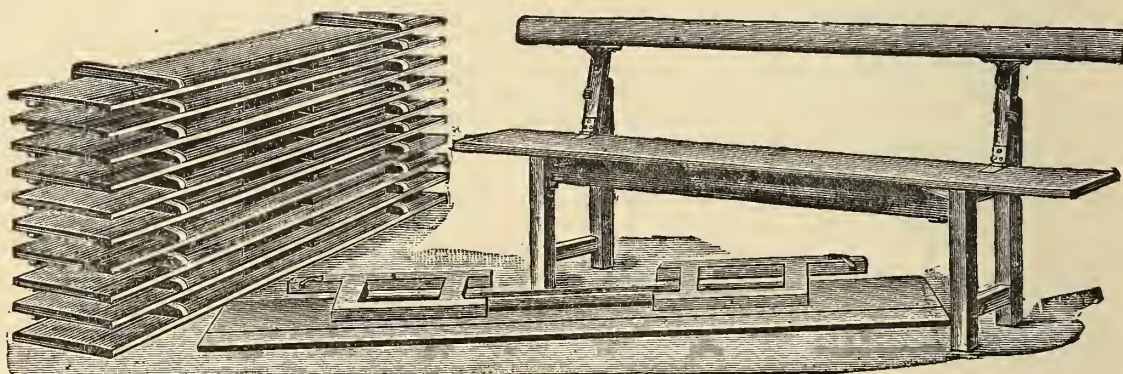


Fig. 3.—TEN SEATS STACKED, ONLY 2 FT. 6 IN. HIGH.

SEAT FOLDED.

SEAT SET UP.

jecting parts of one seat occupy the space between the projecting parts of the next, thus greatly economising space and forming a compact stack. When used during travels, a special arrangement is provided for securing

a number of seats together; and, owing to their lightness in weight, they will soon repay their cost, by difference in carriage. These seats are sent out either plain or varnished, and also supplied with the seat covered with

thick crimson felt, which gives them a very cosy appearance, and adds to their comfort when in use.

The method adopted by the patentee for folding the seats is shown in Fig. 4.

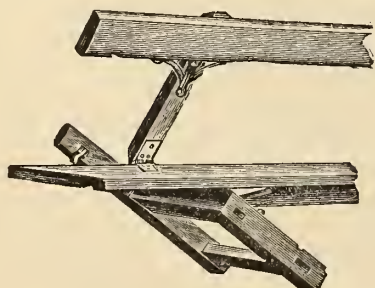


Fig. 4.

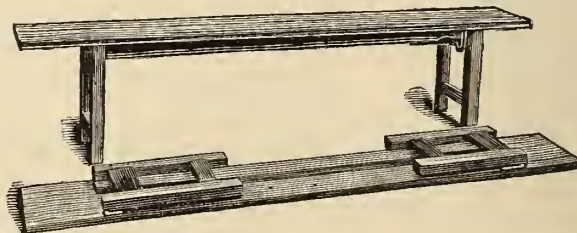
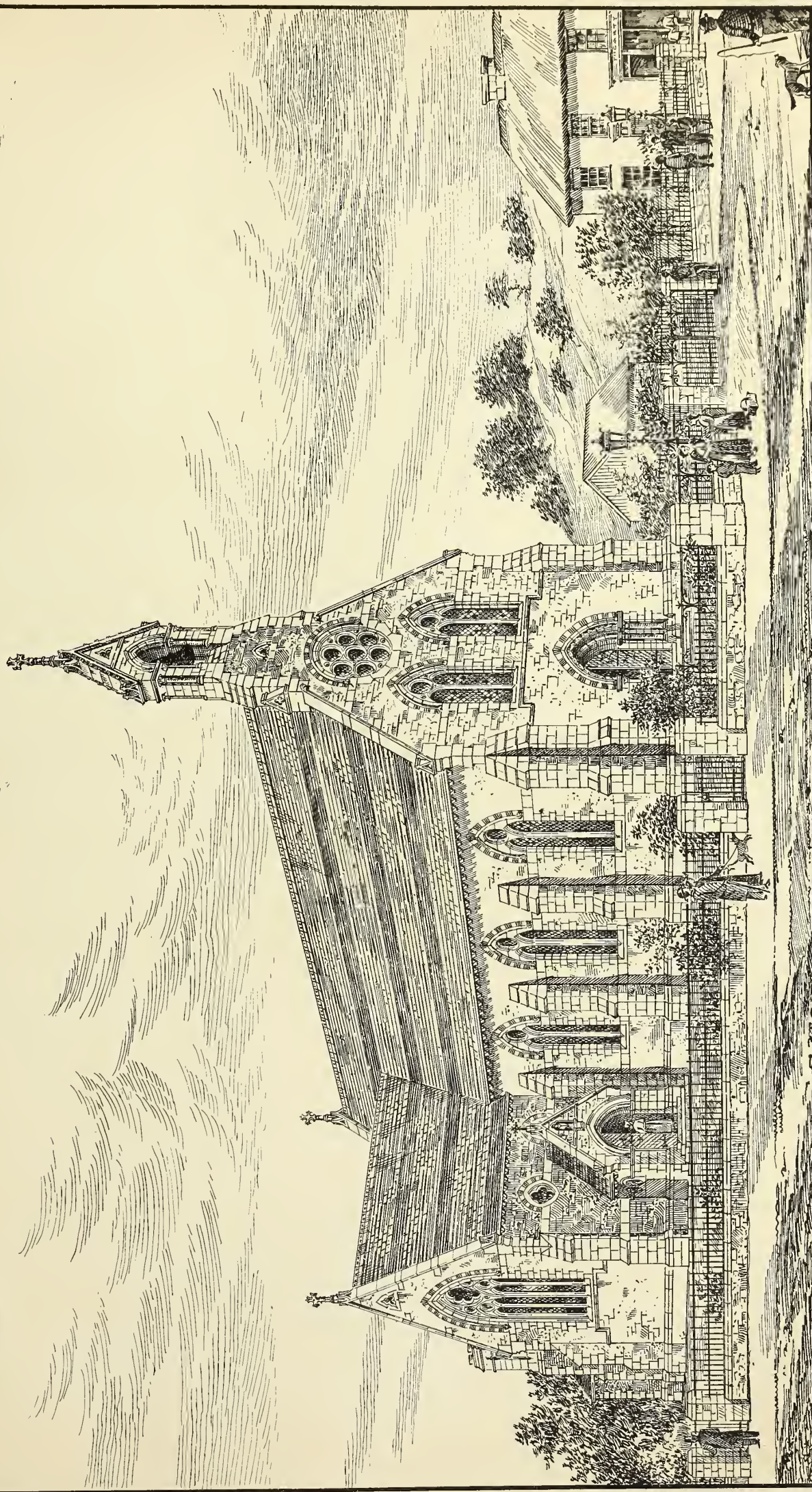


Fig. 5.

In Fig. 5 is shown the maker's patent folding forms, or rout seats. These forms are specially useful in cases where seats with backs are not required. They are made on the same patent principle as the folding seats

and tables. The dovetailed casting on the folding strut engages in sockets, attached to each leg in such a manner that the legs are held absolutely firm, and cannot move either way; and by the same means the centre of

the seat is supported, and the whole braced firmly together. The forms are made either plain or varnished, and are also made with the seat covered with thick crimson felt. Fig. 6 shows method of folding.



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NEW CHURCH, BORRISOLEIGH, COUNTY TIPPERARY.

THIS new church, an illustration of which we publish to-day, occupies a commanding site at right angles to the main street of the town, with the transept and sacristy facing the county road to Nenagh; it is in the Gothic style of the Early Pointed period, and comprises a nave, transepts, and octagonal apse; the total length being 107 ft. internally; width across nave, 28 ft.; width across transepts, 72 ft. Externally the walls are faced with masonry of blue limestone, the dressings to doors, windows, &c., being of a beautiful cream-coloured stone, brought from the Drumbane Quarries, about twelve miles distant.

The west front, which faces the main street, has a bold deeply-recessed doorway, with two orders of arches and clustered columns; and the gable is surmounted by a cut-stone belfry rising to 80 ft. from the ground-line. The nave is lighted by coupled lancet windows with plate tracery heads; the transepts, which will be given over to the poorer portion of the population, are entered by separate porches; the nave will be entirely seated. The roofs are of open timber-work, panelled with pitch pine and covered with Victoria slates. Open arcades of cut-stone, supported by shafts of polished Newry granite, separate the nave from the transepts. Generally, the design is simple even to severity, the architect evidently relying on the effect of studied proportions and contrast in colour rather than elaboration of external detail. The total cost of the works, which are being vigorously carried out by the local builder, Mr. Thomas Williams, of Borrisoleigh, will be about £5,000. The design has been furnished by Mr. W. G. Doolin, M.A., architect, of Dublin, who is at present engaged in numerous other ecclesiastical works in the district.

The foundation-stone was laid on Sunday, 17th ult., by his Grace the Most Rev. Dr. Croke, Archbishop of Cashel, who, as also the Rev. E. Kenrick, P.P., opened the subscription list by placing £100 each on the foundation-stone. The ceremony was attended by a vast concourse of the clergy and laity of the diocese.

At the conclusion of the ceremony, a handsome silver trowel, bearing the following inscription, was presented to his Grace the Archbishop by the architect:—"A.M.D.G. To his Grace the Most Rev. T. W. Croke, Lord Archbishop of Cashel and Emly, Primate of Munster. Foundation-stone of the Parish Church of Borrisoleigh. Laid 17th July, 1892. Rev. Edmund Kenrick, P.P. W. G. Doolin, M.A., architect; Thomas Williams, builder."

HISTORIC MEMORIALS OF LEIX.

(Continued from page 161.)

AMONG the natural curiosities of Leix may be mentioned the *Sluggies*, a vortex within a small glen, near the Rock of Dunamase. There an inconsiderable stream, almost dry in warm weather, trickles through the narrow ravine, and disappears from view within the limestone rocks. After heavy rain, a considerable pool is formed over the aperture, before it is swallowed down through the subterranean passage. Its further course has not been traced, nor is it known if the stream emerges to light, after it has thus mysteriously disappeared.

Near the vertex of Killone, a conical hill, near the Great Heath of Maryborough, the opening to a cavern was discovered

before the close of the last century. This cavern slopes towards the centre of that hill. The cleft at its entrance is narrow, but at some distance, there is a steep descent of several fathoms into a large saloon, about 20 ft. or 30 ft. in height, and somewhat more in diameter. On one side there is a dark and dreadful precipice; and when stones are thrown down into it, these are heard about fifty or sixty fathoms deep splashing in a subterranean lake or river, which is supposed to communicate with water under the Great Heath of Maryborough.* When lighted only by a few candles or torches, the cavern appears dark and dismal, studded with pendant and projecting rocks, which seem to threaten the spectator with instant destruction; yet, on being fully illuminated, these horrors vanish, and give place to the most brilliant scene ever exhibited by nature, or described in fairy tale. Under such conditions, the sides, roof, and every pointed rock, seem instantly covered with festoons and bouquets of pearls, diamonds, and rubies, with every other kind of precious stone. Such appearance is caused by drops of water issuing from calcareous rocks, although no incrustations are to be seen.

The Dun of Clopoke, surmounted by a stone circumvallation on top, is of limestone; and the form is nearly circular. On one of its sides is a large cavity, which diminishes in size, at some distance from its entrance, and then a narrow fissure is said to lead into a cavern, the branches of which have not yet been fully explored. Near this, on the Dun of Luggacurran, it is said there is a cave 6 ft. high by 4 ft. at bottom and top.†

ARTISANS' DWELLINGS COMPANY.

THE half-yearly meeting of shareholders of the Dublin Artisans' Dwellings Company was held at their offices, 42 Dame-street, on Monday 25th ult., Sir Richard Martin, D.L., presiding.

Mr. Isaac Yeates, secretary, read the report, as follows:—

During the half-year 74 shares were subscribed for, and fully paid up, making the total amount of share capital subscribed and paid up £136,100. The works at Aughrim-street are advancing steadily, and the directors hope, early in August, to have 22 of the cottages ready for occupation. The total rent for the half-year was £10,713 18s. 1d., showing an increase, as compared with the previous half-year, of £664 14s. 9d. The entire revenue for the half-year amounts to £10,811 17s. 4d., which, after providing for all expenses, will leave a balance of £5,301 19s. 2d. Out of this amount the directors recommend the payment of a dividend at the rate of 4½ per cent. per annum, free of income tax, absorbing £3,062 5s., and leaving a balance of £2,239 14s. 2d. This balance they recommend to be carried to depreciation fund, which will then amount to £23,730 19s. 7d. The company's dwellings number 1,774, the same as last half-year, and they afford accommodation for about 10,300. The directors have to express their great regret at the loss they have sustained in the death of Sir Edward H. Hudson-Kinahan, Bart., who had been a member of the board since the formation of the company; they have co-opted Mr. Wellington Darley as a director in his place.

The Chairman, in moving the adoption of the report and statement of accounts, said:—During the past half-year we have spent £9,000 in new buildings, the greater portion of which has been expended on the Aughrim-street site. This sum, together with the cost of the ground and the amount previously paid our contractor, represents over £15,000 of your capital, which has been wholly unproductive during the last year. On the Aughrim-street site there are in course of erection 198 houses and three shops, all of which our contractors, Messrs. Meade, have undertaken to complete by the 1st December next, and they promise to give us twenty-two cottages next month, after which this property will commence to give some return. We have applied to the Commissioners of

the Board of Works for a loan on these premises, and trust in a few days to learn that the Treasury have sanctioned the advance. The rate of interest will be at the rate of £3 7s. 6d. per cent. All your property is in good order. At present we are having all the external woodwork and ironwork at the Coombe painted. All your buildings and cottages are well occupied, except the shops in Crampton-quay buildings, which are a disappointment to us. But the neighbourhood is improving, and we hope after a short time to find tenants for these shops. Our rents continue to be well paid. Last half-year we collected £10,713, being an increase of £664 over the previous half-year. This increase is partly attributable to their being 27 weeks' rent collected this half-year instead of 26. This increase in the number of weeks is in consequence of the accumulation of the odd days during the last five years. The total rents collected to this date amount to £152,232, and our bad debts from first to last are only £282, and the arrears of rent due are but £156 14s. 7d. The health of the occupants of our several buildings continues good, the death-rate for the past half-year being but 15·25 per 1,000. I hope you will agree with me that our accounts, which enables us to pay a dividend of 4½ per cent. to our proprietors and to carry £2,249 to depreciation account, proves that our company is in a thoroughly sound condition.

Mr. Wm. Findlater seconded the motion, and the report was adopted.

THE CORONATION OF GEORGE THE FOURTH.*

COURT OF CLAIMS.

A PROCLAMATION was issued and published in the *London Gazette* of the 9th May, [1820] announcing the ceremony of the coronation of his Majesty, as fixed for the 1st of August next, and appointing a numerous list of nobility, gentry, including the Royal Dukes, the Ministers, Privy Counsellors, and Judges, as Commissioners, to receive and determine the claims of rights, privileges, fees, &c., &c., usual on such occasions; some of them are curious specimens of antique customs.

Pursuant to notice, the first sitting was held at 12 o'clock on Thursday, 18th, the Earl of Harrowby, High Steward of Tiverton, and Lord President of Council, took the chair.

The Earl of Abergavenny, as Lord of the Manor of Scoulton, alias Bourdelies, in Norfolk, claimed to be Chief Lardener; to be allowed to perform that office by himself or his deputy, Mr. Rowland, and to have for his fees the provisions remaining in the larder after dinner, namely, the beef, mutton, bacon, &c., &c. The petition set forth that the Lord of the Manor had performed such office at every coronation from that of Queen Anne to that of George III. inclusive.

A gentleman from the Herald's College presented a petition, in which the services of Lardener were also claimed by the Lord of the Manor, of Eaton, in Essex.

Sir G. Naylor appeared with the petition of the Dean and Chapter of Westminster, setting forth their claims to assist at the service, &c.

A petition was presented from the Mayor and Burghesses of Oxford, claiming, under their Charter, to serve in the office of Butlership to the King, with the citizens of London; and to have three maple cups for their fee, &c.

Sir G. Naylor laid before the President and Council a petition on the part of the Duke of Norfolk, the Hereditary Earl Marshal of England, claiming to be allowed to perform by himself, or deputy, the office of Chief Butler of England, and to have for his fees the best cup of gold and cover, with all the vessels and wine remaining under the bar, and all the pots and cups, except those of gold and silver, in the wine-cellar after dinner.

* From the "Dublin Magazine" for May, 1820.

* See Wm. Wenman Seward's "Topographia Hibernica," at the word KILLONE-HILL.

† See Daniel O'Byrne's "History of the Queen's County," chap. v., p. 12.

Sir G. Naylor presented another petition on the behalf of the same noble personage, claiming, as Lord of the Manor of Workop, in Nottinghamshire, the service of finding a glove for the King's right hand, and of supporting the Monarch's right arm while holding the Sceptre Royal.

Mr. Parker, the Clerk of the King's Stables, presented a petition on the part of the Duke of Montrose, the Master of the Horse, claiming to attend at the Coronation as Serjeant of the Silver Scullery, and to have all the silver dishes and plates served on that day to the King's tables, with the fees thereto belonging; and to carry the Knight's spurs before his Majesty.

A petition was presented from the Lord of the Manor of Lyston, in Essex, claiming to make wafers for the King, and to attend with the same at the royal table during the Coronation Banquet.

The Court adjourned to Thursday, the 25th, when it was again held in the Painted Chamber of the House of Lords, and the following claims urged and received:—

The Common Serjeant, attended by the Remembrancer of the City of London, presented a petition, stating the claim of the Lord Mayor to serve the King after dinner with wine from a golden cup, and to have the cup at his departure for his fee and reward. A claim was annexed for divers others of the citizens of London, to serve in the office of Butlers, and to have the usual fees. His Lordship claimed, besides, to sit at the table next the large cover at the left side of Hall.

The Rev. Frederick W. Blomberg, and two other Prebends of Westminster, all attired in their canonical robes, presented a petition from the Dean and Chapter of Westminster, claiming to be allowed, as heretofore, to instruct the Sovereign in the rites and ceremonies used at his Coronation; to assist the Archbishop of Canterbury in the performance of the Divine Service; and also to have the custody of the coronation robes. For these services they claimed to have robes for the Dean and three Chaplains; and for sundry members of the said Church, six yards of sarsnet, two ells of black cloth, the royal habits put off in the Church, consisting of the upper vestments, the several oblations, furniture of the Church, the bells attached to the canopy, the cloth on which his Majesty walks from the Church door of the Abbey to the banquet in the Hall, &c.

Dorset Fellows, Esq., Secretary to Lord Gwydir, Hereditary Deputy Lord Great Chamberlain of England, presented the petition of his Lordship, claiming in right of his said office, to be admitted to perform the duties and services of his high office; to have living and lodging in the King's Court at all times; to bring to his Majesty, on the day of the Royal Coronation, his Majesty's shirt, stockings, and drawers; with the Lord Chamberlain of the Household for the time being, to dress his Majesty in all his apparel on that day, and to have all fees and profits thereunto belonging, namely, forty yards of crimson velvet for his robes against the day of Coronation, together with all the valances and curtains thereof, and all the cushions and cloths within the chamber, and the furniture within the same; and also the night-robe of the King, wherein his Majesty is vested the night previous to the Coronation; and likewise to serve his Majesty with water, as well before as after dinner, on the said day of his Royal Coronation, and to have the basins and towels, and the cup of assay, for his fee.

The Barons of the Cinque Ports, by their petition, claimed to carry over the King, in his procession, a canopy of cloth of gold, or purple silk, with a gilt silver bell at each corner, supported by four staves covered with silver, four Barons to each staff (making sixteen in number); and to have for their fee, the canopy, bells, and staves, with the privilege of dining at a table on the King's right hand.

A petition was presented from the Rev. John Dymoke, Rector of Scrivelsby and Pre-

bendary of Lincoln, claiming the right to ride into the Hall, while the feast of Coronation is proceeding, mounted on one of the King's coursers, and clad in one of the King's best suits of armour. It was further stated, that if the petitioner should not be able to come himself, well armed for war, he claimed to send a substitute, who should enter in the person of William Reader, Esq., into Westminster-hall, in a full suit of armour, on a charger, with the Earl Marshal, the trumpet sounding, before the King at dinner, and proclaim by the mouth of a Herald, the following challenge:—

"If any person, of what degree soever, high or low, shall deny or gainsay our Sovereign Lord George IV. King of Great Britain, &c., to be the right heir to the Imperial Crown of Great Britain, or that he ought not to enjoy the same—here is his Champion, who saith that he lieth, and is a false traitor, being ready in person to combat him; and in this quarrel will venture his life against him, on what day soever shall be appointed."

The Champion then shall throw down his gauntlet, and if nobody do deny that George IV. is the rightful King, the Champion shall drink out of the golden cup to the King, and when he has drank his Majesty's health, shall take away the cup and the charger, the armour, and twenty yards of crimson coloured satin as his fees.

The Lord of the Manor of Heydon, in Essex, claimed to hold the basin and ewer for the King, when his Majesty washes before dinner, by virtue of one moiety of the Manor; and to hand the towel by virtue of another moiety of the Manor: to have the towel for his fee.

The Duke of Athol, who had taken his seat on the upper bench, by the Dukes of York and Clarence, then rose and presented a petition in his own behalf, claiming, as Lord of the Isle of Man, to present two falcons to his Majesty. By acts of the last reign, the sovereignty of this island was purchased from the Duke of Athol, the tenure-ship being reserved to his Grace; and the service had been performed by his ancestor at the Coronation of George II. and by the Duke's grandfather at the crowning of George III.

Sir G. Naylor, Clarenceux King of Arms, appeared with the petition of Thomas Ryder, Esq., Lord of the Manor of Nother-Bilington, Kent, claiming to present the King with three maple cups, by himself or deputy.

Charles Henry, Lord Viscount Maynard, as Lord of the Manor of Easton at the Mount, Essex, counterclaimed (against Lord Abergavenny) to serve the office of Caterer and Larderer.

Mr. Mitchell, of the Vote Office of the House of Commons, presented a petition, claiming to exercise, by virtue of his office of Chief Constable of the Verge of the Palace, the duties of "Cock and Crier" during the progress of the Royal Coronation.

Richard Waldgrave, Esq., for the Manor of Great Wymondley, Hertfordshire, claimed to serve the King with the first cup of silver gilt at dinner, and to have the cup for his fee.

The Baroness of Ruthven, on behalf of her son, a minor, Baron Grey de Ruthven, claimed that the young Baron might be allowed to carry the King's great golden spurs before his Majesty among the regalia in the procession to the Abbey; the service devolving upon Lord Grey by descent, from the family of Hastings, Earls of Pembroke, who performed it in ancient times.

The Hon. R. G. Herbert (brother to the Earl of Carnarvon) by his son, counterclaimed against the Duke of Norfolk, as Lord of the Manor of Buckenham, Norfolk, the office of Chief Butler.

The Earl of Exeter, as possessed of the Barony of Bedford in the County of Bedford, claimed to execute the office of Almoner; and to have for his fees the silver alms basin, with the distribution of all the silver therein, together with a fine linen towel, and all the cloth spread on the ground on which his Majesty walks; with a tun of wine, &c.

THE DISUSED GAOL AT NAAS.

IN accordance with an order of the Grand Jury, Mr. Glover, County Surveyor, submitted a report on the condition of the disused gaol at Naas, which also contained suggestions how best to dispose of it. It appeared from the report that the buildings were sound, but there was a good deal of dilapidation, and it would take about £400 to make the structure fit for its original purposes. He made four suggestions, namely—(1) To maintain the gaol in proper order, when its value might increase; (2) to convert it into a court-house, which, however, would cost a lot of money; (3) to set it to tenants; and (4) to sell it. He was himself in favour of the first suggestion. At present the building would cost £70 for repairs, to prevent it going to ruin. It would cost £100 a-year to maintain the building in proper repair.

The Secretary stated that the premises were dismantled by order of the Prisons Board, before possession was handed over.

The Court-house Committee recommended that the sum of £70 be expended on repairs, and that the committee be authorised to let the premises at a suitable rent.

Major Moore said the committee had given the matter a good deal of consideration, and they arrived at the conclusion that the gaol might be used at some future time.

Mr. de Burgh suggested that the matter be postponed for six months, in order that they might see the result of a probable change of Government. They had a Local Government Bill before the House of Commons which might effect changes.

The recommendation of the Court-house Committee was approved of, and on the motion of Mr. Cooke-Trench, seconded by Baron de Robeck, the committee were further empowered to sell the premises, if a suitable offer was made for them.

The following, amongst other matters, were referred to by the Kildare County Surveyor (Mr. Glover) in his report to Grand Jury at Summer Assizes:—

A few days ago, in the neighbourhood of Castle-mont, I noticed that about 10 tons of broken stones which were measured for a road, and entered in contractor's favour in my books, were removed and used for repairing a private passage to a dwelling-house. The contract is No. 618 in last Query Book, and expires at this Assizes. The half-year's payment was allowed at Sessions, but subject, of course, to your approval and performance of duty between Sessions and Assizes. Robbery of road material is a serious offence, and I would suggest that the money allowed be now cancelled.

I have also to report that the contractor for the streets of Newbridge (No. 530) is not working according to agreement, and I think you should cancel £11 out of his half-years' pay.

Since last assizes I had two prosecutions against the Lucan and Leixlip Tramway Company. I got an order at Celbridge Petty Sessions on the 11th inst., empowering me to complete the work myself if not done by the company within a month.

As regards the Dublin and Blessington Tramway, I have to say very briefly that, in my opinion, the line and rolling stock are, on the whole, properly maintained. The interests of this county do not require more from me than this general statement.

Naas Court-house, I think, requires painting, colouring, and other items of work. Perhaps it would be well if the Court-house Committee considered the matter, so that I could make an estimate, and apply for the necessary work at next County-at-Large Assizes.

In answer to Major Borrowes and Mr. Carroll, the County Surveyor said he did not know who took the stones mentioned in his report; if he did he would have issued a summons against them.

Foreman—The contractor is responsible for the loss.

Major Borrowes—They belonged to the county when measured.

County Surveyor—Yes, and the contract has now expired. The contractor must have given permission for them to be taken.

At the suggestion of Mr. Cooke-Trench, who considered the offence a serious one, the recommendation of the County Surveyor in the matter was adopted.

AN OCTOGENARIAN'S "RAMBLE."

DURING the interesting visit made last Wednesday to the ancient crypt or vault at St. George's-hill (and which we describe, under the head of "St. Michan's Parish," on another page), a friend reminded us of an allusion made thereto some years ago by an octogenarian contributor to this journal. It is gratifying to find that subjects of an antiquarian nature are not forgotten at the present time, and that our journal is made the medium of conveying them to the public, and thereby exciting a deeper interest in such. We reproduce some of "Fingalian's" remarks:—

Those persons who (like us) have attempted to investigate the origin of the ancient remnants scattered about the country, must often have been impeded in their endeavours by a careless stupidity in the lower orders, and want of interest in those who should be of a more enlightened class. Strange, indeed, is the apathy that exists for a pursuit so productive of pleasurable emotions. Who knows where the "Cabbage Garden" is situated? Who amongst us has been in the underground chapels at George's-hill, or the subterraneous passage under Bull-lane and Charles-street? How many of our citizens know of their being there? Who can tell us of the subways in Capel-street and Talbot-street or of the Velvet Factory in Marlborough-green, of Lough Boy, the Jews' Synagogue in Marlborough-street, or the Graving Dock on Eden-quay?

A gentleman some time ago, told us he had been passing through Nassau-street daily for past fifty years, and had only a dim recollection of seeing the wall of the College Park; knew nothing of St. Patrick's Well, Goodisson's, or Kirby's, or Jackson's shops, nor had any remembrance of Ponsonby's, at the corner, or the boot shop beside it; but McCleary's and the caricatures were fresh in his memory, and yet if anyone were rude enough to doubt his intelligence, he would be offended. How few draughtsmen could give a freehand sketch of the Irish Institution, or trace on the Ordnance map of Dublin the course of the Royal Arcade? When ignorance exists of the things and occurrences of but yesterday,—when any knowledge of the smallest matter is almost unattainable, can the paucity of information of more serious subjects be wondered at, more especially when men are to be found restoring what was never lost, and (to exhibit a questionable genius) erecting puerile vagaries to puzzle posterity! Whitelaw and Walsh, Pool and Cash, Malton, Wright, and hosts of others repeat the same story almost *verbatim*; in some cases they quote and rely on "Ware's Antiquities," but in many instances are as inventive and truthful as Archdall, Dalton, or Ledwich. The editor of the last edition of Archdall's "Monasticon Hibernicum" exhibits a most painstaking spirit in investigating, and from him and Harri's "Ware," with what may be had from traditions and vague and time-worn mural evidences, we will try and rake up something of Christ Church Cathedral.

We had long, from some reason or other, taken it for granted that Christ Church had no *crypt*, and recent events have only served to magnify our doubts, and make our ideas more hazy. Fifty years ago a friend told us that when he was young (about thirty years before), the boys of Cock-hill or Rowning-lane, Skinner-row, and neighbourhood, had a vault opposite Winetavern-street, which they kept cleanly swept to play in, and a builder had given them some timber and a door to close up the front to Cock-hill. This was about the site of the modern Baptistry, near the corner of the north-west aisle of the nave of Michael's-hill. Its greatest depth being about 15 ft. was about the width of the projection of the vaults from the church fronting John's-lane, and measured from the centre line of the nave, would in all probability give half the width of the building on

which the cathedral stands,—the so-called crypt, whose wide and massive pillars cannot be looked upon without indifference, or a thought whether their Scandinavian origin is fictitious. Beyond the east line of this ancient structure the church extended about 66 ft., and St. Mary's Chapel about 16 ft. further. At the west end it was 22 ft. 6 in. longer than the ancient building, and these portions were without vaults or crypt. Up to the time of the recent re-building the remarkable bend in the chancel was frequently the source of much conjecture, the public not knowing that the subterranean building stopped short, not extending beyond the choir; in fact one might with truth suppose this to have been the original termination of the church, and the walls that would mark it existed in each of the choir aisles, until the alterations in 1831. What portion of the vaults are now extant we know not, but our researches would lead us to suppose they formed an oblong building nearly as wide as from "out to out" of the transepts, and as long as from the western column at Michael's-hill to the former porch of St. Mary's Chapel, *i.e.*, 150 ft. by 88 ft. inside. In Reading's Map of 1760 the passage to the vaults from Christ Church-lane (marked "39") is shewn exactly in line with the face of south transept, corresponding with the distance from center line of church to face of vaults in John's-lane, and affording a further reason for the supposition that it was erected on a structure of anterior date.

In "An Historical Guide to Ancient and Modern Dublin," by the Rev. G. N. Wright, A.M. (1821), is the following account, much of which is evidently borrowed from Sir James Ware, and the remainder, for which no authority is quoted, we will receive with caution:—"The Cathedral of Christ Church or the Blessed Trinity was built A.D. 1038, about the centre of the city of Dublin, by Sitricus, the son of Amlave, king of the Ostmen of Dublin, and Donat or Dunan, the first Ostman Bishop who was buried in the choir of this cathedral, at the right-hand side of the communion table, A.D. 1074. This cathedral stands on a range of arches, erected by the Danes as stores for merchandise; and in those vaults St. Patrick first appealed to the inhabitants of Dublin in behalf of the Christian religion. It was then called the Cathedral of the Holy Trinity, and was erected for secular canons."

This extract is pretty much in keeping with many other accounts, and the accompanying illustration, by Petrie, is most valuable. He was a truthful and elegant draughtsman as far as landscape drawing was concerned, but most unreliable in measurements. At present we wish to deal with the ancient building on which the cathedral stands. We learn from "Ware" that "Donat built the nave and wings [transepts], and Lawrence Archbishop of Dublin, Richard, surnamed Strongbow, Robert FitzStephens, and Raymond le Gross, undertook to enlarge the church, and at their own charges built the choir, the steeple, and two chapels. Archbishop John de St. Paul, a little before his death, built at his own charge the whole chancell together with the archiepiscopal throne such as it was in 1658."

Now, John de St. Paul succeeded to the See in 1349, and died 1362, and between these dates he "built the whole chancell"; and this was the last addition to the church of any consequence of which we have any record, excepting the erection of the south wall of the nave when the roof fell in 1562. How, then, for what reason or by what argument, we may ask, was the chancel omitted in the re-building of the other portions in 1878? The reason assigned is, that the crypt was taken as a guide for the extent of the buildings; but in that case why restore the end wall on Michael's-hill and the portion that oversails 23 ft.? Surely there is as much authority in one case as in the other. However, we believe we are not wrong in our opinion that the original building (as shown in the careful and most valuable measurements of Mr. William Butler, published in the IRISH BUILDER, March 1st and 15th, 1871)

was a parallelogram of about 160 ft. by 80 ft., additions being made as the erection of the superstructure required. The chief entrances were at Cock-hill and the "*Vicus Piscatorum*," now Fishamble-street. What the Danes may have intended, it would be idle now to attempt to conjecture; but from the disposition and increased size of the piers at the west end, provision would appear to have been made for something of great weight and solidity—probably a tower. The supposition that the original building and anything to do with determining the style of the cathedral, is simply absurd. Our forefathers were *not* fools; and whether ever St. Patrick preached in the Danes' "store-vaults," the tradition would not have been received had the vaults not been built at the time. "There is no smoke without fire." Much doubt existed for ages as to the situation of the three chapels erected in the eleventh century; but, thanks to Mr. Butler's industry, their situation at the east of the store-vaults is now shown, and they are in good preservation. When John de St. Paul built the chancel in 1350, these chapels were, as a consequence, closed up, and became dark places of sepulture; but the recent destruction of the chancel opened them to public view. Although the fact of Sitricus and Donat erecting Christ Church on a vaulted building existing before their time cannot be disputed, we find learned (?) men ascribing the architecture to the twelfth century! But there is no doubt as to the matter. The case stands thus: At an early age the Ostmen, Eastmen, or Danes built a large store, vaulted and in the substantial style of their day; on this, in many years after, a church was erected, extending probably 120 ft. in length. Some years later three chapels were built to the east, which are still extant; and in 1350 the then archbishop, having large and extensive views, designed and carried out the great chancel which stood until ruthlessly destroyed somewhere in 1875.

NOTES OF WORKS.

A new branch of the Ulster Bank, Limited, is to be erected at Blackrock, Co. Dublin, from plans prepared by Mr. W. M. Mitchell, R.H.A., architect, 5 Leinster-street.

Tenders are required by the Board of Public Works for the erection of a post-office in Lisburn. Also for the erection of a coast-guard station in Portrush. Tenders will be received not later than the 11th inst.

A handsome tomb is to be erected over the grave of the late Bishop Reeves. It is of polished grey granite, with an embossed Celtic cross elaborately carved laid on top. The work is in the hands of Messrs. C. W. Harrison and Sons, Great Brunswick-street, and is expected to be ready for fixing by the end of this month.

KILLORGLIN AND CAHIRCIVEN RAILWAY.—Wonderful progress has, says a contemporary, been made in the construction of this line, and about eight miles of permanent rails, fencing, &c., have been perfectly completed from Killorglin to Glenbeigh. The principal place in which the labourers are now engaged is on the Cahirciven side of the line. The heaviest and most difficult work along the whole of the line, which will be about thirty statute miles in length, will be the construction of a tunnel at a place called Troum, about twelve miles from Killorglin. This tunnel, when completed, will extend to about one-eighth of a mile. It is estimated that the line will be finished by the end of the twelve months. A great deal of financial benefit from the present working of the line has been derived by the villagers of Glenbeigh or Rossbergh, one of the principal watering resorts in Kerry in the summer season.

PAINT COSTS NOTHING.—So says a great authority on the subject. The cost is many times repaid by the saving made by preserving exposed wood and iron work, and damp walls are made waterproof. The best of all paints is Carson's—cheap, simple, and the most durable ever produced, having led the market for nearly a hundred years. Write for pattern lists to 21 Bachelor's Walk, Dublin.

"RIDING THE FRANCHISES."

(Continued from page 159.)

We shall now describe the more modern manner of surveying and perambulating the city liberties every third year, as was carried out in the last century, down to 1772, followed by an account of the subsequent modes of conducting the perambulations after that date, and continued by the civic authorities of the old corporation until the abolition of that body. The Lord Mayor and the different minor corporations or guilds being assembled, each headed by their masters, all gaily attired, and carrying with them the implements of their respective occupations, proceeded according to the programme cited here. In their perambulations they took stations in different places on their route, where they halted and called courts. These places on the route are marked in the description by daggers:—

"They drew up at the old Custom House, passed along Essex-street, Temple Bar, to the east of Lazer's-hill, from thence to Rings End, and so to low water mark, where a dart was cast into the sea. From thence they crossed the strand to Blackrock,† and so westward to a Red-house on the east side of Merrion.† From thence through a garden at the back of the Red-house, and across the field to Simon's Court, from thence across the fields into the road to Bray, and then southward along the said road to two little cabins on the south side thereof. From thence they crossed the fields into the road to Clonskiagh opposite to a mill on the river of Donnebrook; from whence they passed along the road to the bridge of Clonskiagh, passed under the east arch along to the mill of Clonskiagh and so to Clonskiagh-lane;† and from thence along the lane to Milltown-road, and then northward to Mr. Robert's house on the said road, which they passed through, and the garden belonging to it, across the fields to Donnebrook-road, near a cabin on the right hand thereof; from whence they proceeded northward along Donnebrook-road to the sign of the Currant-tree, on the west side of the road, and from thence by the south end of the house through the garden, and across the fields to the back of Mr. Leeson's house, at Stephen's-green, till they came to the corner house of St. Kevin's-port. From thence they passed by the west side of Kevin's-port to and through Big Butter-lane to Bridge-street, and along Bride-street to Bull-alley, and down it, to the house formerly Counsellor Swift's, which, and the garden thereof, they passed through into Patrick-street, and from thence to the sign of King William and Queen Mary, on the west side of the street to the Coomb, at a great stone that stands in the street; and thence along the Coomb by the Water Course to Crooked-staff; from thence over the wall on the west side of Crooked-staff, between the willow trees, and along the Water Course, into the road to Dolphin's Barn, from thence they proceeded northward across the fields, and through the garden and Red-house at the north end of Cut-throat-lane. They then directed their way to Bow Bridge, and passed under the middle arch of the said bridge, and then into the Hospital Fields over the Old Deerpark-wall, near the Old Slaughter house, from thence through the Hospital Fields, and across the Liffey Strand to a road stone by the Deerpark wall,† they passed over the Deerpark wall, and through a part of the park to a corner of the wall near the dog-kennel, on the north side thereof; from thence over the said wall northward, and passed along the same to the first half round, or rising on the said wall. Thence they proceeded eastward through Mr. Brownlow's fields, and several gardens, to Stonybattery, on the south end of Mr. Addison's house, and from thence through a house at which hangs the sign of the Half Moon, on the east side of Stonybattery, and through the gardens to Colonel Stanley's house, and through the said house to Grange-Gorman-lane; from thence by the south end of the Half Moon on the east side of Grange-Gorman-lane, through the gardens into Finglas-road,† and from thence northward to the Broadstone. From thence through the Water Course that passes by the stone, and through the garden into Drumcondra-road;† thence southward to a little cabin at a well,† in a garden on the east side of the road; from thence through the gardens to the sign of the Coach and Horses in Ballybough-lane to Ballybough Bridge, from thence across the river, and along the strand to Clontarf, and so to the Shades of Clontarf; and from the Shades of Clontarf forward to the Mill of Raheny, and from

the mill northward one hundred and thirty perches, to a little brook, which is the end of the liberties of the City of Dublin."

In the light of the above document the citizen of to-day can mentally perambulate the city, and conjure up many old scenes, sites, and associations; and to the student of local history it will be full of suggestiveness. With the aid of Speed's Map—and later maps—and Rocque's Map, and others in the last century, for instance, the maps in "Pool and Cash's Views," and in "Malton's Views;" or those in the old Dublin directories towards the close of the eighteenth century, a world of comparison may be drawn, and much that would be otherwise obscure made plain. There is a reliable bit of local history indicated in this account of the city perambulation above cited, valuable in many ways as to names of persons and places, and enabling us to see what features once existed on the route, but which for long years have ceased to exist.

We are not aware that any detailed account exists in any of the files of our old newspapers or magazines of the last century descriptive of the "Riding of the Franchises;" nor are we cognizant at present of any engraving illustrative of the pageant. Some other national events and customs have been well drawn and illustrated by native and foreign artists; but the old city pageant on its march, or drawn up in front of the old Tholsel, in Skinner's-row, or at the old Custom House in Essex-street, would have afforded a good subject for the canvas or pencil of the artist. Short paragraphs, to be sure, were given in the Dublin newspapers of the last century on the occasion of the triennial perambulations, and these events were also recorded in the old *Gentleman's Magazine*, of London. For instance, in the latter print for 1755, there is the following short account of the "Riding of the Franchises" for that year:—

"Dublin, August 12.—The liberties and franchises of the city were rode and perambulated by the Right Hon. the Lord Mayor [Alderman Hans Baillie], attended by the High Sheriffs [Messrs. Phillip Crampton and Timothy Allen], and the several corporations in their order. The grandeur of the procession is beyond all conception. The estimate of the expenses of the different corporations laid before the City Treasurer for disbursement, amounted in the whole to £38,000. These franchises are rode once in three years."

In the Dublin *Freeman's Journal* for 16th of August, 1770, the pageant of the preceding day is thus described:—

"Yesterday the Right Hon. Sir Thomas Blackhall, Lord Mayor, and Kilmer Swettenham and Anthony [subsequently Sir Anthony] King, Esqrs., Sheriffs, attended by the Master, Warden, and brethren of the corporations, perambulated the liberties and the franchises of this city according to triennial custom. Though the number rode was less than usual, that deficiency was amply compensated by the general uniformity and richness of the clothing of each corporation, which, with the number of carriages (whereupon were exhibited several of the arts and manufactures), rich furniture, and equipage, made a most elegant appearance."

Two years later, as already stated, this elaborate triennial pageant was abolished by the Lord Mayor's proclamation, and the future perambulations carried out were performed with little parade. They took place, as previously, every third year, in the month of August, on a day when there was a spring tide, at the ebb of which the greatest extent of the Lord Mayor's jurisdiction, by the throwing of his dart into the sea, was determined. The Lord Mayor proceeded with a small retinue, going round as described above. In the course of the route a few ceremonies took place in the liberties of St. Sepulchre, or Bishop's liberty; Earl of Meath's liberty, in Thomas-court and Donore, and the manor of Grangegorman, when the sword was taken possession of by the people of those liberties and carried by them through them. At the time of receiving the sword, the people generally made a request of the Chief Magistrate, which was commonly complied with, and which was, in general, to

liberate some offender, not guilty of capital offence. The day was ended with a dinner, and the usual accompaniments of civic banquets. Merrion Strand and Blackrock on these days were gay and bustling places, full of life and jollity. The sight of the franchise men was eagerly watched, and shouts were raised when the horses and carriages came gallantly on from the city, and thronged these marine villages to suffocation. On these occasions were to be seen light-clad couriers dressed in knee-breeches, sky-blue cloth jackets, and seal-skin caps, running before the civic carriage. Before the latter, perhaps, a sturdy, smart-visaged fellow might be observed bearing a sword as large, or nearly, as that described in "The Castle of Otranto."

The rush of persons was often tremendous when the returned cavalcade drew up outside the Tholsel. Musket men there announced by a volley that the franchises were ridden, and the sword-bearer held the sword high above his head, and after waving it three times flung it into the centre of the crowd. The scramble for the weapon was wild but short, and the winner held it up amid the acclamations of the people. On some occasions unusual excitement and anxiety were evidenced in anticipation of the pardon of an offender—it might be a father, or a brother, or, again, a sweetheart; and the prize might be contested and won by a maiden, who, with her friends or companions, might immediately proceed to Newgate and knock boldly, and with no misgiving, for the release of her lover.

The Lord Mayor's jurisdiction in our grandfathers' days was certainly determined by a simple and primitive process. It would be a novel sight now to see a portly chief magistrate riding at low-water mark to the very water's edge, and from thence throwing his dart as far as his strength allowed him, for, according to ancient custom, where it fell was the boundary of his power.

When all the city guilds attended, in the last century, the sight was one of garish show and civic splendour, but it was mostly, if not altogether, at the expense of the public funds. The sum of £38,000 expended in 1755 was a very large sum, indeed, at that period; and, whether in part supplemented by private donations or subscriptions on the part of the guilds, the sum was extravagantly large. There is only too much reason for believing that the city estate and the pockets of the ratepayers ultimately bore the burden of these triennial displays.

Though we may regret, and do regret, in many instances the passing away of old customs, we feel that it is impossible to resist what time and progress have doomed to decay. The tendency of the time is to ask a reason for the existence of this and that thing, irrespective of sentiment; and we fear many other customs beside those adverted to are doomed to be swept away, because no proofs can be offered that they are useful, or worthy of preservation.

TENDERS.

For three-span (37 ft. each) steel plate girder bridge, with masonry, piers, abutments, &c., for the Grand Jury of the County Mayo; cost not to exceed £3,500. Mr. Wm. Patterson Orchard, B.E., County Surveyor, North Mayo, engineer:—

| | |
|---|------------|
| Sainerville and Co .. | £4,855 0 0 |
| J. B. Dillon, Ballina .. | 3,478 19 4 |
| A. Thorn .. | 3,410 0 0 |
| A. Findlars and Co., Motherwell (accepted) .. | 3,373 9 0 |

For constructing Sallybrook Waterworks, for the guardians:—

| | |
|----------------------------|-----------|
| R. Longfield (accepted) .. | £126 10 0 |
|----------------------------|-----------|

For constructing waterworks in the town of Callan, County Louth, according to plans prepared by Mr. Tuite, C.E.:—

| | |
|---|-----------|
| P. Collins, Duleek .. | £395 15 0 |
| W. Baird, Dublin .. | 396 0 0 |
| (Ruck excavation 10s. per cubic yard extra) | |
| L. F. Branagan Drogheda .. | 385 0 0 |
| R. Simpson, Dublin .. | 384 7 6 |
| J. Halpenny, Ardee (accepted) .. | 259 0 0 |

THE IRISH BUILDER.

Vol. XXXIV.—No. 784.

IRISH INDUSTRIAL VILLAGE,
WORLD'S FAIR, CHICAGO.

MHIS week we are enabled to reproduce the preliminary sketch for the Industrial Village which it is proposed to build at the Chicago Exhibition, and in which will be shown a number of the cottage industries of Ireland, and the people at work in the cottages at their several trades.

The general scheme is as follows:—The Village will be entered at the angle, through a gateway, or the gable-end of a Celtic church, for which a good example will be followed, the one shown in the present sketch being only imaginary, it having been prepared in haste for a committee meeting on the 9th of present month.

The cottages are entered from the right-hand side, and the plan is so arranged that one can get from cottage to cottage without going outside. At the top of the Village is placed the shop, where the produce of the workers will be sold; and behind the shop are offices and committee-rooms.

In the corner opposite the entrance it is proposed to reproduce Donegal Castle, reducing the scale by one-quarter; and the interior of the castle will be utilised for a lecture theatre and museum, lighted from above, the roofs being kept down between the walls, so as not to mar the ruinous, picturesque appearance of the castle from the exterior.

The trades proposed to be represented are—Dyers and Homespun Weavers, Kells Embroidery, Damask Weavers, Dairy and Butter Making, Spriggers and Sewers, Shirt-makers, Iron-workers, Stone and Wood Carving, and Stained Glass work.

The architect is Mr. Laurence A. McDonnell, 28 Lower Pembroke-street, who has been engaged by Lady Aberdeen and the committee, as soon as the plans are agreed to, to proceed to Chicago, and have the work carried out under his personal superintendence.

We hope hereafter to be able to publish the plan and further drawings of this most interesting undertaking.

THE BUILDINGS AT THE FAIR.

SIR Henry Trueman Wood, Secretary to the Royal Commission, paid a visit recently to the World's Fair, Chicago, and, as the result, has presented an exhaustive report of what was worthy of notice, and this appears in a somewhat abbreviated form in the *Journal of the Society of Arts*. "The journey between New York and Chicago can (he writes) now be made in twenty-five hours, by two express trains daily in each direction. Both trains are fitted up in the most luxurious manner; and it is no exaggeration to say that the journey is made with no greater discomfort than that of remaining in a well-furnished hotel. It indeed involves less tedium than an ordinary journey of 300 or 400 miles in this country."

As to the "Condition of the Buildings," as he found them in the month of June, he says:—

One of my first duties was to visit Jackson Park, and see the progress which had been made in the buildings there. Very great advance has been made since my visit in September last—quite sufficient I should say to justify the belief that the buildings will be completed, though not ready for the reception of exhibits, by the date of the inauguration ceremonies in October.

The buildings are in various stages of completion. The most backward is the great Manufactures Building. This, I was informed, has been delayed by the necessary materials not being all ready for delivery by the appointed date, but even it is very far advanced. Seventeen of the twenty-three great roof trusses of the main structures were in position before I left Chicago, and the remainder will doubtless be set up by the end of this month.

On the other hand, some of the buildings are practically completed. The Mines Building is quite finished, except as to the interior decoration. This, it appears to me, is the building best suited of any for exhibition purposes; for, its roof being constructed on the cantilever principle, there is no necessity for the supporting pillars, which, in many of the other buildings, occupy a large amount of space. This is especially the case in the Agricultural Building, the galleries in which are very extensive, and in consequence, the ground floor space is very much obstructed by numerous supporting pillars. The general effect of the whole will, I think, be a good deal impaired in consequence. On the other hand, the large area of the gallery gives a great deal of exhibition space, and as access to the gallery is obtained direct by the Elevated Railway which runs through the grounds, the galleries are more accessible to, and will doubtless be more visited by, the public than is usually the case at exhibitions. This building is in an advanced stage of completion, being roofed in, and the exterior nearly completed. The same remarks as to gallery apply, to a large extent, to the Transportation Building. This also is roofed in, but is not quite so far advanced as the Agricultural Building. The gallery in this appears to me to be the best exhibiting space in the building, having regard to the fact that it also is accessible direct from the Elevated Railway. The large annexe to the building has not yet been commenced. This, however, will consist practically of shedding only, so that it can be run up in a very short time.

The Machinery and Electricity Buildings were not so far advanced. The scaffolding being still up, it was not possible to form so good an idea of what their internal appearance will be when completed.

The Horticultural Building is completed outside, and partly finished within; indeed, some of the conservatories are already heated for the reception of plants.

The shell of the Forestry Building has been finished for some time. It is now used as a workshop for the moulders, who are making ornamental statuary in "staff," or fibrous plaster, for the exterior of the buildings.

The Fisheries Building is externally complete, and the construction of the aquaria and other fittings is being proceeded with. This is one of the most original and attractive buildings on the grounds. Its style is gene-

rally Spanish Romanesque; the arches, capitals, and shafts of the columns are decorated with figures of marine animals and plants, treated somewhat in the same way as the animals which compose the terra-cotta decoration of the Natural History Museum in London.

The walls of the Fine Art Building is built, but the roof is not completed; still, I was able to form a good idea of what the structure will be like when completed. It seems to be admirably suited for its purpose; the rooms will be spacious, and promise to be well lighted, and the arrangements are such that they are all easily accessible from one another, and from the Central Hall. I should think that large crowds could pass through the building without inconvenience. Had the Exhibition Executive realised, in the first instance, how large would be the contributions to this department from foreign countries, they would probably have designed a larger building at the outset. The two annexes have not yet been commenced.

The Women's Building is practically finished; it is of rather plainer and more unpretentious character than most of the other buildings. It consists of another hall with rooms opening out of it on the ground floor, and rooms above on the second storey opening into the gallery surrounding the hall. A portion of the roof, I understand, is to be laid out as a garden and restaurant. From it one of the finest views of the park will be obtained.

It is now quite possible to judge what the general aspect of the park will be when the buildings are complete, and there seems no reason to doubt that the high anticipation formed from the design, as to the effect of the magnificent buildings surrounding the lagoons which have been formed in the centre of the park, will be fully realised, and that the general effect will compare not unfavourably with that of the Paris Exhibition of 1889. Having regard to the size and extent of the buildings, it can hardly be expected that they will be more splendid and imposing, as being on a larger scale, than even that presented by the Champ de Mars.

THE NEW CHURCH OF ST. JOSEPH,
DUNDALK.

ON Sunday, the 7th instant, the ceremony of opening the new Church of St. Joseph, for the Redemptorist Fathers, at Dundalk, took place, when the Most Rev. Dr. Logue, R.C. Primate, presided. In our number of the IRISH BUILDER for June 15, 1890, we gave particulars of the building, and in subsequent numbers interior and exterior views of same. Mr. G. C. Ashlin, R.H.A., is the architect; and Mr. M'Adorey the builder. We may here add that the high altar is the work of Mr. Thomas Earley, of this city. It stands 28 ft. high, and is composed of marbles of various colors. The panels on each side of tabernacle are of golden mosaic. The carving under the table of the altar, representing the Last Supper, is in Carrara marble, and is an exquisite specimen of artistic skill. There are also five pinnacles terminating in angular form around the tabernacle. The beauty and ornamentation of the altar could scarcely be surpassed, and no expense seems to have been spared in making it a credit to the fine edifice in which it is erected. (See IRISH BUILDER, October 1st, 1891.)

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.

(Continued from page 165.)

The Sheriffs' Prison.

THE Sheriffs' Prison (which is situated in Green-street, northwards of the Sessions House) was built in 1794, with the object of preventing the abuses which were practised in private prisons called "Sponging Houses," where were usually lodged persons arrested for debt exceeding £10. The prison is a large building, forming three sides of a square, and having a court-yard in its centre, which was used as a ball-court. At the first institution of this prison, the gaoler, turnkeys, and other officers attached, were supported by the rents of the chambers. The sheriffs preyed upon the head gaoler, he upon his deputy, the deputy on the more wealthy of his prisoners, and those again upon the poorer, to whom they let part of their rooms at weekly rents of three to four shillings.

In 1808, Mr. Wellesley Pole, then Under-Secretary of State for Ireland, appointed Commissioners to inspect and make a Report on the State of the Prisons of Ireland. On visiting the Sheriffs' Prison in Green-street, they discovered that the gaoler was then in the receipt of upwards of £100 per annum, for rent paid to him by a vintner who had a shop in the underground storey, for the sale of spirituous liquors. Subsequently to that time, however, those evils ceased to exist, as the gaoler and his staff were paid by salary instead of by fees. Since the Abolition of Imprisonment for Debt came into operation in 1864, the Sheriffs' Prison has been converted into a police barrack for the use of the men of the C Division.

An Old Burial-Ground.

The site on which Newgate Prison, the Sessions House, and the Sheriffs' Prison are built, was once portion of the estate of St. Mary's Abbey, and was called the "Abbey Green,"—hence *Green-street*. The northern end of the Abbey Green, now the sites of the Sessions House (part of), the Sheriffs' Prison, and Mr. Thomas Tickell's timber yard, was originally an old burial-ground, which, according to tradition, formerly belonged to St. Mary's Abbey. It is so marked on a map of Dublin in *Wilson's Dublin Directory* for the year 1785; and the late Mr. Edward A. Ennis, the senior partner of the well-known firm of E. A. Ennis and Sons, Solicitors, Capel-street, informed the writer of this memoir, that, when a boy, he often heard from old men, who saw the workmen when sinking for the foundation for the Sheriffs' Prison, dig up large quantities of bones; and also that portion of the cells under the court-house were part of the vaults of the old cemetery. We cannot find in any old records relating to the City of Dublin, or of the parish of St. Michan, where such a cemetery is mentioned; but the space of ground above described appears on the earliest maps of Dublin that we have examined.

St. Michan's Chapel.

From the period of the introduction of the English Reformation of religion into Ireland in 1535, till *circa* 1700, the Roman Catholics of this parish had no permanent or fixed place wherein they could assemble for divine service. The State recognised only one church—the Church of England and Ireland as by law established,—to which all persons

were obliged to resort for the performance of their religious duties, under the severest penalties for neglecting to do so. The Act of Præmunire, which prohibited the introduction of foreign authority in spiritual matters into England, and forbade the use of an unknown tongue in public worship, made it penal on all ecclesiastics to say Mass in the Latin tongue; and was chiefly directed against the use of chapels or other buildings by Roman Catholics in general. Hence, the Roman Catholic clergy were, in order to evade those stringent laws, compelled to adopt the course of saying Mass in certain of the private houses of their parishioners, or to seek retired chambers in the back lanes of the city, wherein the laity privately assembled. Thus we find in the State Papers, *temp.* James I., amongst the "places of most public note whereunto the priests resort for Mass in Duhlin," that the Chapel of St. Michan's parish, or the place used for that purpose, was situate "in a hack-room of Shelton's house, beyond the Bridge, at the corner of the so-called Hangman-lane." This state of affairs was in existence in the year 1630, as we learn from an "Account of the Dioces of Duhlin, drawn up by Archbishop Bulkeley, and presented to the Privy Council of Ireland, June 1st, 1630," where he says of St. Michan's:—"The most part of the parishioners are recusants, who go to one Browne, a priest, to hear Mass, who says Mass commonly in the houses of one Patrick White and the Widow Geydon, or Geaton."

We have now no means of ascertaining how long afterwards the Roman Catholics were necessarily obliged to put up with such meagre accommodation; but it seems probable that after the accession of James II. to the throne, they obtained some little relaxation of the oppressive laws under which they lived. That monarch, by Letters Patent, dated at Dublin, 5th June, in the sixth year of his reign (1689), founded a Benedictine Nunnery* in Channel-row, in the City of Dublin, to consist of "one Abbess and Nuns, and to be called and known by the name of the Abbess and Convent of our first and Chief Royal Monastery of *Gratia Dei*," which he endowed with an annuity of £100 a-year to the abbess and convent and their successors. (See Foundation Charter, in Harris's "Life of King William III.," App. No. 38.)

This convent, with a private chapel within its precincts, was erected on the site which had been allotted for that purpose, but the endowment fell through, owing to the reverses of King James's fortune at the memorable Battle of the Boyne, which was fought on the 1st of July in the following year. The chapel, which had been converted into secular use for the accommodation of the parishioners, was the first Roman Catholic chapel in St. Michan's parish since the Reformation wherein Mass had been publicly celebrated. From a return made of all the Roman Catholic clergy in the year 1697, preserved, in MS., in Marsh's Library, entitled "A Peticular Act. of the Romish Clergy, Secular and Regular, in every parrish of the Dioces of Dublin," out of which we shall select those of SS. Michan's, Paul's, and Mary's, we find there had been six secular and one regular priest residing in St. Michan's parish, viz.:—

* This nunnery subsequently became the Convent of Dominican Nuns. From hence they removed to Clontarf in the early part of the present century, where they remained but a few years, after which they removed to their present convent at Cabra.

"CITY OF DUBLIN, ST. MICHAN'S PARISH.

Secular—William Dalton, parish priest, lodging at Figham Bramham's, Barb., in Smith-Field.

James Gibbons, Priest, Assistt. to William Dalton, at the Chappell in Channel-row, lodging at Mr. Elleston's, at Channel-row.

John Linegar, priest, lodging at Widow Linegar's, in Church-street.

Lawrence Dowdall, lodging at Matthias Burgesses's, in Church-street.

Richard Murphy, priest, lodging at Edmond Reynolds, in Smith-Field.

William Dardis, parish priest of Abbey-Larha, in ye County of Longford, lodging at Matthew Barrett's, in Smith-Field.

Regular—John Weldon, Capuchin Frier, lodging at Luke Dowdall's, in Smith-Field.

CITY OF DUBLIN, ST. PAUL'S PARISH.

Secular—Father Dempsey, parish priest of St. Michan's, is said to be a Titular Bishop, and lodges at my Lady Clanmalura's in ye said parish.

William Dardis, calls himself parish priest of Abbey Larha, in the County of Longford. He is said to be a Regular.

Father Gibbons, said to be a Jesuite, but calls himself assistant to Father Dalton, who is hntt an assistant himself to Father Dempsey.

Richard Murphy, calls himself a secular priest, lodging now in Bridge-street.

Regular—Father John Meldon, Capuchin fryer, lodging in Smithfield.

Father Netterville, a Jesuite, lodges on the Key at Dr. Cruise's house.

Father Berminghame, sometimes in the parish of St. Paul's, sometimes in Cook-street.

CITY OF DUBLIN, ST. MARY'S PARISH.

Secular—Fergus Farrell, priest, Chaplain to the Lady Castlehaven, who lives in Capell-street, near ye Mint.*

As these returns were made in the same year that St. Michan's parish was divided into three civil parishes by act of Parliament, and ten years before it was divided into three distinct Catholic parishes, most of the priests whose names and addresses are given above belonged to St. Michan's, although some had themselves returned as belonging to the new civil parish of St. Paul, fearing, perhaps, lest they might attract the notice of the government authorities to so large a number serving in one parish. Hence, we find the names of two clergymen (Dempsey and Dalton) returned as parish priests of St. Michan's, viz.:—*St. Michan's*, "William Dalton, Parish Priest, lodging at Figham

* The Mint was a large house in Capel-street, No. 27 (sic doors from Abbey-street, east side), where King James II. had his brass money coined during his stay in Ireland (1688-90), and was afterwards known as "King James's Mint-house." It subsequently became the residence of the famous Dr. Sheridan, who kept a school there, and in it his youngest son Thomas, the father of the celebrated Richard Brinsley Sheridan, was born, and received, together with most of the first characters of his age, his contemporaries, the rudiments of his education. The apartments at the rear were the social retreat of Addison, Swift, Tickell, Delany, &c. After Dr. Sheridan's death, the Mint-house became the property of Mr. Ashly, who converted it into a puppet show. The house was ultimately taken down, and the present two houses (forming No. 27) built upon its site.

Bramham's, in Smith-Field;" and in *St. Paul's*, "Father Dempsey, Parish Priest of St. Michael's, is said to be a Titular Bishop, and lodges at my Lady Clannmaluras in ye said parish." But in the same return from *St. Paul's*, we find this contradiction of the above: "Father James Gibbons, said to be a Jesuite, but calls himself assistant to Father Dalton, who is butt an assistant himself to Father Dempsey."

The Most Rev. Dr. Donnelly, Lord Bishop of Canea, in a series of articles on "The Diocese of Dublin in the Eighteenth Century," which he contributed to the *Irish Ecclesiastical Record* (1888-9), endeavours to clear up this incongruity by saying that the Father Dempsey mentioned in the return from *St. Paul's*, "must be the John Dempsey, Bishop of Kildare, in hiding, whose whereabouts, after 1694, Fr. Comerford, in his *Collections of the Diocese of Kildare and Leighlin*, was unable to ascertain." And again, his lordship says: "Evidently Father Dalton was not the P.P. of St. Michael's, as stated higher up, but only assistant or administrator for Bishop Dempsey. Dr. Nary is registered P.P. of St. Michael's in the list of 1704, and Dalton of St. Paul's; this would imply that Dr. Dempsey had died previous to that date." Could it not be possible that there had been at this time another Father Dempsey, who was P.P. of St. Michael's, and not the Bishop of Kildare, who had been (if not in hiding) only on a temporary visit to his kinswoman, Lady Clannmaluras (*Clan Maoilughra*, or *Glenmalire*, the title borne by the chiefs of the *O'Dempseys* who were lords of an extensive territory comprising the greater parts of the present King's and Queen's Counties, as we learn from the Four Masters, under the year 1193), and, in order to conceal his dignity of bishop, he merely reported himself as P.P. of St. Michael's? Or, could a bishop, even in the penal days, hold the office of parish priest outside his own diocese? That there was a *John Dempsey*, Bishop of Kildare, about this period, there is no doubt. Dr. Brady, in his *Episcopal Succession in England, Scotland, and Ireland*, says that John Dempsey was consecrated Bishop of Kildare on the 25th January, 1694, and on the 29th November same year he received the diocese of Leighlin in administration, from which time these two Sees have been united. Brady does not give the year of Bishop Dempsey's death, but says that "in Propaganda Congregation, held 4th September, 1713, it was stated the Archbishop of Dublin [Edmund Byrne] had written to recommend Edward Morphy, Vicar-General of Kildare and Leighlin, for the bishopric of the same see, vacant for many years." All the information we can find in the "List of Registered Popish Priests," is, that whichever was parish priest of St. Michael's in 1697, must have died before 1704, as a new name appears in the latter year; William Dalton is returned as P.P. of St. Paul's, but as there was no Catholic parish of St. Paul until 1707, he must have been only still a curate to the P.P. of St. Michael's.

Mary's-lane Chapel.

The dawn of the eighteenth century was the harbinger of religious toleration to the Roman Catholics, after the dark days of persecution during the latter part of the sixteenth century, which continued during the whole of the seventeenth century.

St. Michael's parish, as the seat of the labours of many eminent and zealous priests,

was now favoured with having for its pastor a distinguished and learned ecclesiastic, in the person of the celebrated Dr. Nary.

Cornelius Nary was born in the County of Kildare, in the year 1658, and received his education in the town of Naas, in same county. In 1682, he was, in the 24th year of his age, ordained priest, in the City of Kilkenny, by James O'Phelan, Bishop of Ossory. The year following he went to Paris, and finished his studies in the Irish College there, of which he subsequently became Provisor, which office he held for seven years. In 1694, he took the degree of Doctor of Laws in the College of Cambray, in the University of Paris; and, about two years after, upon his going to London, he was appointed tutor to the young Earl of Antrim, a Roman Catholic nobleman of Ireland. Returning to his native country in 1702, he was appointed parish priest of St. Michael's, in this city. In the Register of all "Popish Parish Priests, 1703," under "St. Michael's, Oxmantown," Dr. Nary is thus registered P.P. of that parish:—

"Cornelius Nary, Church-street, aged 46, ordained 1682, at Kilkenny, by Jacob, Bp. of Ossory. Sureties—Nicholas Lincoln, Capel-street, merchant; and John Butler, Ormond Key, £50" [each].

When Dr. Nary was placed over the charge of the wealthy and populous parish of St. Michael, he found it without a chapel, and the parishioners were still obliged to resort either to rooms in private houses, or to the private chapel attached to the convent in Channel-row, to worship their Creator. But, notwithstanding that the penal laws were yet in full force against Roman Catholics, prohibiting them having places of public worship, Dr. Nary ventured to build a new chapel, for the use of his flock, in the centre of the most populous part of the parish. This new chapel, which was situated on the south side of Mary's-lane and north-west corner of Bull-lane, and popularly known as "Mary's-lane Chapel," was the first that had been publicly opened in this parish for divine service since the Reformation. Dr. Nary continued to be the zealous pastor of this parish during the long period of thirty-six years, having died in the year 1738, at the patriarchal age of eighty, and in the fifty-sixth year of his sacred ministry.

Among the curates of the parish of St. Michael at the time of Dr. Nary's appointment was a very remarkable young man, a native of the parish, who was born in 1671, and was ordained priest in 1694, and in whom Dr. Nary discovered such abilities as fitted him to become his worthy colleague and coadjutor in the parish for twenty-seven years. This young priest was the Rev. John Linegar, who subsequently became the first Parish Priest of the new Roman Catholic parish of St. Mary's, in 1729; and after the death of Archbishop Luke Fagan, in 1733, he was chosen Vicar Capitular by a large majority in a Chapter of the Dublin Clergy, held on the 15th November, same year. On the 20th March, 1734, Dr. Linegar was provided by Brief appointing him Archbishop of Dublin; and on the 31st July following, it was arranged that the Secretary of State [Rome], should, by letter, appoint the new Archbishop of Dublin to be also Bishop of Glendalough. He died in 1757, and was succeeded by Richard Lincoln, who had been his coadjutor by Brief, dated 21st November, 1755.

Harris, in his *Continuation of Ware's Irish Writers*, says that Dr. Nary "was a man of learning and of a good character, and the author of the following works:—

- "A Modest and True Account of the Chief Points in Controversy between the Roman Catholics and the Protestants." Antwerp and London, 1699, 8vo.
- "Prayers and Meditations." Dublin, 1705, 12mo.
- "The New Testament, translated into English from the Latin, with Marginal Notes." London, 1705, 1718, 8vo.
- "Rules and Godly Instructions composed for the Spiritual Advancement of a Devout Widow, who hath vowed Chastity; and recommended to Virgins, who have consecrated themselves to God's Service." Dublin, 1716, 16mo.
- "A Brief History of St. Patrick's Purgatory, and its Pilgrimages, written in favour of those, who are Curious to know the Particulars of that famous Place and Pilgrimage so much celebrated by Antiquity." Dublin, 1718.
- "A Catechism for the use of his Parish." Dublin, 1718, 12mo.
- "A New History of the World; containing an Historical and Chronological Account of the Times and Transactions from the Creation to the Birth of Christ, according to the computation of the Septuagint," &c. Dublin, 1720, folio.

[He is said to have translated the Bishop of Angers's Pastoral Letter to the Clergy of his Diocese, together with the Answers made by him to Mons. Dublineau, and the Letters which he wrote to him on the subject of the Constitution Unigenitus; as also that Bishop's Mandate. Dublin, 1721, 8vo.]

- "An Answer to a Paper intitled, 'A Conference between Mr. Clayton, Prebendary of St. Michael's Dublin, and Dr. Nary, a Roman Priest.'" Dublin, 1722, 4to.
- "A Letter of Controversy to the Vicar of Naas." Dublin, 1722, 4to.

[He is said to have translated Cardinal de Noailles's Mandate on the subject of a Miracle wrought at the Procession of Corpus Christi, anno 1727. Dublin, 1728, 8vo.]

- "A Letter to his Grace, Edward [Synge] Lord Archbishop of Tuam, in Answer to his charitable Address to all who are of the Communion of the Church of Rome." Dublin, 1728, 8vo.
- "A Rejoinder to the Reply to the Answer to the Charitable Address," &c.* Dublin, 1730, 8vo.
- "An Argument shewing the Difficulties in Sacred Writ, as well in the Old as New Testament. MS."

After his death, was published by a friend of his: "An Appendix to the Letter and Rejoinder," &c., 1739. He is said also to have translated Mons. Rapin's "Polemical Tracts." Dublin, 1732, 8vo.

Perhaps one of the most interesting of Dr. Nary's works, and which may be considered not only unique in itself but of very great importance to the parishioners of St. Michael's, is his Parochial Register, contain-

* Edward Synge, successively Bishop of Raphoe, and Archbishop of Tuam, wrote several treatises and polemical works, among which were:—(1) "A Charitable Address to all who are of the Communion of the Church of Rome." Dub., 1728. Answered by Rev. Dr. Nary. (2) "An Answer to two Objections made against the foregoing Tract." Dub., 1729, 8vo. (3) "Defence of the Charitable Address to the Roman Catholics, in reply to Dr. Nary's Answer." Dub., 1728, 8vo. To which Dr. Nary wrote a rejoinder. (4) "Observations on Dr. Nary's Rejoinder."

ing baptisms and marriages. It is a small 4to volume, well bound in vellum; commences 13th February, 1725, and ends 19th July, 1730. It is one of the oldest and most complete Roman Catholic parochial records in Dublin, and, with the exception of a similar register in the parish of Naas, one of the oldest in Ireland. The entries (many of which are in Dr. Nary's handwriting) are written in a very legible and hold style, and give the names of the streets in which the persons lived, as all the baptisms and marriages recorded in it were mostly solemnised at the residences of the parishioners instead of in the chapels—a custom which prevailed during the penal days; and, we understand, for many years after the passing of the Emancipation Act in 1829. Hence the small size of the registry books, so made as to be carried in the pocket of the clergyman when on duty. The Registers of St. Michan's, which are now in the possession of the Rev. Robert F. Conlan, P.P., are consecutive from 1725 to the present date.

(To be continued.)

BUILDING AND OTHER WORKS— GREAT SOUTHERN AND WESTERN RAILWAY.

THE remarks made by the Chairman (Mr. J. C. Colvill) on Saturday at the half-yearly meeting of the shareholders of the Great Southern and Western Railway Company, are so important, and as they touch on building and other topics that come within the scope of our journal, we transfer the main points of them to our columns.

The Chairman, in moving the adoption of the Report, alluded to the decrease in traffic on their line,—a condition that “applies not merely to Irish lines, but more emphatically to English lines.” He then continued:—

I can quite understand uninformed shareholders thinking that they could see another $\frac{1}{2}$ per cent. at least, and still allow the company to carry over what had been their average carryings over at this time of the year, which is put at £5,000. But I can give very good reasons why the $\frac{1}{2}$ per cent. dividend is the wiser thing to do. In the first place, we may look forward under the Traffic Act, to rather a diminution in our income, a diminution in our rate, and, in fact, less income. And again, on the other hand, the same paternal hand that put that Act upon us has multiplied our expenditure. They have called upon us to expend a great sum of money in introducing the block and interlocking system, with which you are all familiar. The capital on which there has been expended for that purpose has amounted to about £57,000. So that we begin with the interest on £57,000; and then in addition to that this block system entails upon us very considerably enlarged expenditure in wages for the increased number of signalmen, which, I think, cannot be put down, at the best calculation we can make up to the present, at certainly not less than £5,000 a-year. And if you add that £5,000 to the interest of £57,000 it means that the block system entails upon us, an annual expenditure of at least £8,000 a-year. Well, then, in addition to that I see that the same paternal hand has put upon us a new order, which came out at the end of 1891, calling on us to bring up our under bridges on the line into conformity with a certain standard which the Board of Trade have laid down. We believe that our bridges as they exist at present are perfectly safe. They have carried our trains with perfect safety for many years. But it seems that an unfortunate accident occurred on the Brighton line, a year or a year and a-half ago, to one of their bridges, and that was followed by this order from the Board of

Trade, that ever under bridge on every system must be brought into conformity with the standard which they have laid down. All these things are in the direction of providing for the safety of the public, and one has not a word to say against any order of that kind, but it will cost us on this line a sum of from £10,000 to 12,000 to bring such of our bridges as are not in conformity with the standard up to it. But that will not all come upon us at once. It will be a revenue charge, because it is merely putting a new bridge in the place of an old one, so it cannot be done out of the capital, but from the nature of the work it will be spread over several years. However, it will add at least in each half-year £2,000 to our expenses. While on the subject of these works interlocking, &c., I am happy to say that we have nearly completed them on this line, and in the course of another month or so all these works will be finished. We are building coal stores, and putting down additional sidings for cattle and various things of the kind, which, although not any very large sum is involved, yet in the aggregate it amounts to some thousands in the half-year. The usual working expenses on the permanent way are about the same as they were in the corresponding half-year. As regards locomotive power, we have a saving of £3,015. That is altogether in the item of coal. We are buying coal at 3s. 7d. a-ton less than in the corresponding half-year, and that, in our consumption, amounts to a considerable sum. In our traffic expenses we have an increase of about £3,000 in the half-year. That arises, I may say, altogether from two items. There is about £1,400 of it involved in the question of increased wages. In carrying out the block system, we have had to build additional signal cabins, and put additional signalmen into them. That in the last half-year amounted to £1,400. Our tender system—the new tenders for waiting on the transatlantic ships at Queenstown—cost £1,532. I may mention that the cost of that service to the Great Southern and Western Company, after deducting £1,200 which the London and North-Western Railway Company contributes, is not less than £2,400 a-year. That is a large sum, but the article is very good, and the object is better. I may say that already we are beginning to receive the return for that expenditure. In the last half-year we landed at Queenstown—there came on shore at Queenstown—an increase over the corresponding period of 118 first-class passengers, second-class passengers 164, and of third-class passengers 23, making altogether 311 passengers increased landing on account of the facilities given them by these tenders. Well, if we are to estimate the value of this—we will not talk of the third-class passengers who come there, because that is a small item—but if we are to estimate the advantages that we get from the 118 first-class passengers and the 164 second-class passengers, it amounts to a considerable saving, and it shows, at least it satisfies me and the board, that the expenditure on these important tenders was a very wise expenditure, with the view of inducing American passengers to get out at Queenstown and come to Ireland. In the report, we refer you to a rather long correspondence which we have had with the Treasury on the subject of the Kerry lines. About a year and a-half ago just when we were commencing these works in Kerry, we mentioned to the shareholders that we were afraid that we had them in our laudable desire to meet the Government of that day, in our desire to hasten the works and give relief and all that sort of thing, we acted on the faith that the estimates, which had been at first prepared by the promoters of those lines, and had been supposed to have been revised by the special engineers of the Board of Works, might be reliable. Our directors, in the goodness of their hearts and softness of their understanding, entered into this agreement with the Government to make those lines. We had to wait very long—at least some four or five months—before we

were able to get the amount of information necessary and the plans and sections that ought to have been put before us as regards one of those lines. We found that several most important items of expenditure had been left out of consideration altogether. It is not for me to find fault with the Board of Works engineer, or anybody, but—I don't mean it offensively—I think we have been “done.” I would be very glad if the shareholders would carefully read the correspondence, because it appears to me most unreasonable that when we have made allegations of the kind that I have now repeated we have been denied an investigation of them. We have been howled over by the Treasury—of whom I shall have something to say by-and-bye on another subject—we have been bowled over by these gentlemen saying “We won't go into details;” but we have the correct sum to be given for making these railways—railways of which these gentlemen sitting in London know as much as the man in the moon! It is unreasonable, and it entails upon us an expenditure of at least £50,000 over what we expected, and the only thing to be said is this, that we must make the best of a bad bargain, and endeavour to delude ourselves into the belief that we have got 47 to 50 miles of railway for an expenditure of £57,000. I don't think we are in a position to take the law ourselves, but in justification of our position it is only right that I should make the statement that I have now made. I am happy to say that our new station at Cork is very nearly completed. It met with a little reverse. A slight mishap occurred to roof, but the contractor was not delayed more than ten days in consequence, and I hope that the work will be completed by the end of October. At any rate I think it will be a credit to Cork. The moment it is opened we will get rid of the expense of the Summerhill Station, and then we will be a paying concern. I said some time ago that we were going to have some words with the Treasury. I come now to the question of the acceleration of the inland and American mails, which are mentioned in the report as under consideration of the Post Office and the Treasury. Most of you have read Mr. Healy's questions, and the answer of the Postmaster-General, on this subject. As the Postmaster-General alludes to an offer made to the Great Southern and Western Company, I feel now that there is no breach of confidence on my part in putting before the shareholders exactly what that offer was. To do so in an intelligible form, it is necessary for us to go back to the end of last year, because you remark in the answer given by the Postmaster-General he alludes to something that encouraged an idea in his mind that the Great Southern were going to accept the terms that he has now offered. But the whole cause of our complaint is with the other department. Now, as I say, to go back to the end of last year, there were negotiations in the course of which the Post Office here did suggest to the Great Southern Company to accept £2,500 a year, instead of £3,000. I must say that the Treasury are emphatically a huxtering body. I went into the matter very carefully, and in December we wrote a letter to the Post Office, saying that we had considered this matter very carefully, and we could not undertake the duty of the acceleration of the inland mail for less than £3,000 a-year. And I may now mention for the information of the shareholders that in all our Post Office contracts we are receiving a considerably less amount per mile for what we do than the Great Northern, of which I also happen to be a director, and in putting down £3,000 a-year, we put it down at the very lowest figure—at the lowest scale we have charged for any Post Office services, with a view to induce them to give this accelerated service. Well, subsequent to that, in the month of May last, as you are all aware, a very representative and influential deputation waited on the Lords of the Treasury, and it was understood, that when we left the presence of the Treasury, that this money would be given at once. In addition to the £3,000, there



IRISH INDUSTRIAL VILLAGE, WORLD'S FAIR, CHICAGO.

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was £1,000 a-year added for the homeward American mail. Everybody believed that the matter was settled. However, subsequently several questions were asked by Irish members as to what was being done, and the matter was always put aside by the Chancellor of the Exchequer saying that the matter was under consideration and negotiations. There was certainly no negotiation with us, because from December, 1891, up to the present moment we have never given way in what we consider we were entitled to get, and what I must say the Postmaster-General stamped with his words in the House as the sum that we ought not to be asked to receive less. At last this answer comes, and I say that I don't feel I am committing any breach of confidence in letting the shareholders know what the answer is. It was written, of course, from the Post Office here, under orders. Here it is—

SIR,—I am desired by the Postmaster-General to inform you that he has now received the sanction of the Lords Commissioners of the Treasury to offer to the Great Southern and Western Railway Company £2,500 a-year for the scheme of acceleration of the inland and American mails between Dublin, Cork, and Queenstown, specified in your letter of the 2nd December last.

Now comes this very remarkable passage:—

Messrs. Ismay, Imrie, and Company, of the White Star Line, have undertaken to contribute £1,000 a-year to the above sum, their lordships making it a condition that the firm's contribution shall be made direct to the Great Southern and Western Railway Company, so that the charge upon the Post-Office rates may be reduced to that extent.

In other words, the Lords of the Treasury, instead of £3,000 a-year, say—"We will give you £1,500"—you may look to the White Star Company for the other £1,000. Then the letter proceeds:—

I shall be glad if you will inform me whether the Great Southern and Western Company agreed to these terms, and if you will at the same time name a date for carrying the changes into effect.

And then the letter concludes—

With regard to the homeward American mails service touched upon in your letter of 2nd December, I am not in a position to a communication.

We never hesitated as to the answer we gave. We refused the £2,500 a-year, and, above all, we refused to be mixed up with the White Star Company. And I must say this, that really this action on the part of the Treasury fills me with a certain amount of distrust and suspicion—which may be wrong—that there may be some Southampton influence at work, which I hope the different Chambers of Commerce in Ireland and the shareholders of this company, and, in fact, Ireland generally, will raise their voices against. The next paragraph is in connection with the Kingstown and Kingsbridge Company, and in this connection we feel bound to remind our shareholders that their agreement with the Kingstown and Kingsbridge Company is now virtually at an end. We entered into an agreement with that Company in February, 1891, and 18 months was given to carry it out. It has not been carried out, and all I can say on the part of my board and company is, that we are extremely sorry that this line, which manifestly was a line for the Great Southern and Western Railway, has, so far as we see, lain unmade.

Mr. R. Caldbeck said that at the last meeting some remarks were made on his silence about the Kingstown and Kingsbridge line, but at that time they were making arrangements to meet a determined opposition, and he did not like to make any observations, as he did not know what the consequences might be. When they went before Parliament they had to meet the opposition of the London and North-Western Railway, which took such a form as to leave the opposition of the Dublin, Wicklow, and Wexford Railway quite in the shade. But the promoters of the Kingstown and Kingsbridge line were triumphant in the struggle, and they had obliged their opponents to show their hands. Sir George Findlay did his utmost against

the line, for he knew it would put into the hollow of the hand of the Chairman of the Great Southern and Western Railway the whole of the traffic of the South and West of Ireland, as well as the American mails. The promoters fought the opposition at immense expense, and they were now to put in what was known as a "flying junction" at Booters-town, which meant an expense of £15,000 to them. Their able and experienced traffic manager had declared to him that with this flying junction the line would be perfect. They were now in the position to go on with this line, and he would not continue the talk in that room unless his words were verified. They were now in a position to take up this line and make it immediately. They felt great confidence in the line, particularly after coming through such an ordeal. They knew they had to contend with immense opposition and they had people even in that room opposed to them, but he might tell them that his interest in the Great Southern was six times as great as it was for Kingstown and Kingsbridge line. He knew that this link line was necessary for the holding of the American traffic, as against Southampton, and even Holyhead. He would not occupy their time much longer as he had so often spoken on this subject, and he had only to submit a resolution to the meeting to the effect. "That the extension of time for the construction of the Kingstown and Kingsbridge line having been obtained, and in view of the great importance of the line to the Great Southern and Western Railway, the shareholders request that any overtures from the promoters be favourably considered by the directors."

Mr. Ogilvy seconded the motion. He said when he was first asked to do so, he declined for two reasons. In the first place he knew that the directors had given full and favourable consideration to this project; and in the second place he told Mr. Caldbeck that he might do more harm than good, because he felt this line had been too long promised and too deferred. But when Mr. Caldbeck assured him that the work would be commenced within three months, and far advanced within six months, he consented to second the motion. With regard to the acceleration of the mails, he felt that the word "huxtering," used by the chairman, was very applicable to the conduct of the Lords of the Treasury. The answer given in the House of Commons was received in the South with disgust at the way the directors of the Great Southern had been treated.

The Chairman said he wished to point out that the Great Southern and Western Company were not the people to take the initiative in any further action with the Treasury or the Post Office. The directors did not covet this money, but their object was for the country generally.

THE RATHMINES WATERWORKS.

At a meeting of the Commissioners on the 3rd inst., the question of the employment of counsel to advise the board with reference to the township waterworks came forward.

The Chairman moved—"That Mr. Pembroke Stephens, Q.C., and Mr. T. D. Fitzgerald, Q.C., be appointed to advise the board with regard to the case between the commissioners and the mill-owners on the Dodder in reference to the township waterworks."

Mr. Bolton seconded the motion.

Mr. Shannon did not consider it necessary to have the opinion of any counsel, after the decision of the English Law Lords.

The Chairman said time was growing short. They should at once take whatever steps that were necessary.

Mr. Hewson said the ratepayers felt terribly the expense they were put to in consequence of the adverse decision of the House of Lords. They all had thought that the works were sufficient to give the mill-owners the supply of water that was contracted for, and they now had to take action, at tremendous expense to the township. He wished to ask when first was it ascertained

that the Parliamentary plans of the waterworks could not be carried out; who first made the discovery, and to whom was it communicated? Was any authority given to make a change in the Parliamentary plans and, if so, by whom? He thought that tremendous blame was attached to the engineer, who gave a report directly in favour of the construction of works, which he was not able to carry out afterwards. He believed of course, that everything was done *bona fide* by the Waterworks Committee; but whenever they did make a mistake, they should take the consequences.

The Chairman said everything was done by the Waterworks Committee strictly in accordance with their department. They were now in a fix, and they had nothing to do but to adopt the course suggested, and consult those gentlemen, in order to see what course should be adopted to arrange the mistake.

After some further remarks,

Mr. Shannon moved as an amendment—"That in the strained position of the ratepayers, caused by the deviations from the Parliamentary plans of the waterworks in 1880, it is necessary to exercise strict economy in the management of the township funds; hence that no instructions be given to a solicitor for any case to be submitted to Mr. Pembroke Stephens, Q.C., or Mr. T. D. Fitzgerald, in the mill-owner's matter now governed by the recent judgment of the Lord Chancellor in the House of Lords."

Captain Boyd hoped that the amendment would not be seconded.

After some discussion the original motion was carried, Mr. Shannon alone dissenting.

Mr. Hodgson said the deviations had been made by the contractor without the knowledge of the committee.

Mr. Beckett pointed out that the contractor, under the terms of his contract, was at liberty to make such deviations as he thought necessary, and when these deviations from the plans were being made, the mill-owners made no complaint.

THE HOTEL MÉTROPOLE.

THE above hotel (formerly known as "The Prince of Wales"), situated on the west side of Lower Sackville-street, and convenient to the General Post-office, has been remodelled and fitted up in a superior style throughout. Mr. William M. Mitchell, R.H.A., was the architect. The general contractors for building works were Messrs. H. and J. Martin, of the Leinster Building Works, Grand Canal-street. The painting and decoration was carried out in best style by Messrs. Thomas Dockrell, Son and Co., South Great George's-street. Plumbing was entrusted to Mr. William Baird, Lower Abbey-street. Preparations are being made to light the hotel by electricity.

NOTES OF WORKS.

Internal improvements have recently been made to Antrim parish church, diocese of Connor. They include the addition of a chancel, with choir stalls, reading stand, &c. The restoration of the transept is in progress, and is being carried out at the expense of Viscount Massareene. The name of the builder of the new organ we have not heard. From the design of Mr. S. P. Close, M.R.I.A.I., a pulpit, in carved oak, is in hands, and will shortly be erected, in memory of the Rev. J. G. Holmes, late rector of the parish. The sons of the Rev. W. Greene, for thirty-eight years vicar of Antrim, are presenting a handsome brass lectern, in memory of their father. The church, originally built in 1596, was destroyed by fire in 1649 and remained in ruins till 1720, when it was rebuilt; a lofty square embattled tower, surmounted by an elegant octagonal spire, of freestone, was added in 1812.

IRON AND STONE EXHIBITS AT CHICAGO.

THE following respecting some of the industries of America which will be a view of the forthcoming "World's Columbian Exposition," appears in one of the leaflets which are being scattered broadcast over the land, and from it may be learned somewhat of the rapid advances making by our Transatlantic friends:—

IRON.

As regards iron. The most strenuous effort will be made to have an exhibit worthy of that great branch of industry. This country is now the first nation in the world in iron production, having recently forged ahead of Great Britain, its only real competitor. Our production of pig iron now exceeds 10,000,000 tons annually, or nearly four times what it was ten years ago, and the production of steel now aggregates about 5,000,000 tons a year, a growth of nearly 300 per cent. in the decade. The development of the iron resources of the Southern States has been especially great and rapid. The display at the Exposition will be prepared and collected under the fullest appreciation of the magnitude and importance of the iron industry. There will be shown all the many varieties of ores, with full data as to the location and the extent of their beds, the analysis of each ore, and, so far as possible, the different processes of treatment in the manufacture of iron and steel.

BUILDING STONE.

Another exhibit, which will be very extensive and varied, will be that of building stone. Granite, limestone, marble, sandstone, and bluestone, in scores of varieties and scores of colors, will be shown by the finest specimens procurable. Nearly every state has quarries of native material of excellent quality. From one to half a dozen of the twenty or more recognised varieties of granite, for example, are quarried in twenty-eight states, Massachusetts, Maine, California, and Connecticut being the largest producers. The value of the granite output in 1889 was 14,464,095 dols., an increase of more than 9,000,000 over that of 1880. Limestone is quarried in almost every state, Pennsylvania and Illinois taking the lead. The value of the output in 1889 was 19,095,179 dols. This is exclusive of the output of marble, which, as is well known, is a species of limestone, the quarrying of which in a number of the states is an important and extensive industry. Sandstone, including bluestone, was quarried in 1889, to the value of 11,758,081 dols., nearly every state being a producer. The exhibit of building stone will be given the importance it justly demands. Thousands of specimens, many of them highly polished and very beautiful, will be shown, and accompanying each will be the results of tests made to determine strength, durability, and other merits as construction material. The exhibit, which will be made in the Mines and Mining Department, will, it is believed, mean very much in the matter of rapid development of newly discovered mines and quarries, and the attraction of capital to many which, through lack of it, have been but little worked.

THE IRISH LANGUAGE AND LITERATURE.

In this century, several very learned Irish scholars and historiographers have applied themselves with great zeal and industry to illustrate the language, history, and literature of our country. Various distinguished foreign writers have emulated their example and objects. As a result of their combined labors, a great number of pieces and tracts have been collected from the archives in which they had been preserved. Many of these have been published in the original language, with faithful translations into English, usually with accompanying notes and historical introductions. Thus not only have the records of past ages been reproduced for our instruction, but curious pictures of former manners and customs have been presented to our view. The art and science known to our forefathers have been preserved also for our study and admiration.

The Irish language, like that of other

Celtic dialects, had its origin in the countries of the East. The language and literature of ancient Erin can be traced back to a very remote period. Comparative philology establishes a close affinity between the present Irish and the most primitive Asiatic languages. Sacred and profane histories bear witness to the similarity of customs and manners in the countries to which they refer. Compared with what our ancient literature reveals to us, we find various points of resemblance to many in vogue among our ancestors.

Not the least interesting feature of our ancient literature is the illustration it affords regarding the superstitions, practices, pursuits, and traditions of our ancestors. These notices are to be met with both in prose and metre. The most valuable remains among the former class are undoubtedly those collections known as Annals, and the greater part of the brief entries in them are usually of a definite and genuine authenticity for the facts noted down, while these range back with great certainty to a very remote period. Less reliable are some of the historical romances that still exist. Nevertheless, ancient historic statements—sometimes with variations of detail—have been popularly preserved in tradition, even to the present day. Thus, our storied annals and chronicles are often corroborated, and in a manner singularly consistent with their most probable authenticity, in the circumstances which are bound up with the narrative.

The songs of our ancient bards are fast fading from the memory of our people, even in the Irish-speaking districts. However, a very considerable collection has been preserved in old manuscripts and in modern-written collections. The Library of the Royal Irish Academy abounds in numberless relics of this character.

SCIENCE AND ART DEPARTMENT, SOUTH KENSINGTON.

NATIONAL COMPETITION, 1892.

THE report of the examiners of the selected works for prizes is now before us, and while bearing evidence of being an able and honest one by capable artists, does not on the whole give us a very hopeful account of the success of the system of the Science and Art Schools. The strictures on the works of the students appearing throughout are so marked, that it can only be concluded that the Department is yet far from hitting off a system of education which will develop the artistic faculty of the country in a reasonable way.

EXAMINERS' REPORT FOR 1892.

Examiners: Professor G. Aitchison, A.R.A.; T. G. Jackson, A.R.A.; J. J. Stevenson.

ORIGINAL ARCHITECTURAL DESIGNS.

Four designs for churches deserve notice. A silver medal is awarded for that by James H. Tonge, of York (St. Leonard's-place) School, which shows some originality though too purposely eccentric. It and all the other churches are insufficiently explained by sections.

Bronze medals are assigned to those by Ernest H. Bird and William Carter, also from the above-named school, which resemble each other in style and in other faults. In both the vestries are dark and the single light windows out of scale; and in the case of W. Carter's design the flying buttresses are improperly applied and the vaulting is insecure.

From the fourth design, John P. Dixon, of Nottingham School, receives a book; in it the east end and transepts are tame and the windows badly drawn.

A bronze medal is given to Henry Mitchell, of the Glasgow School, for a classic steeple. The 5 ft. walls of the upper part, which are needlessly

heavy, having their bearing wholly on arches, would be unsafe in construction. The large circular-headed windows of the lower part are too large and spoil the effect of the tower. The gathering in of the top buttresses by reversed consoles is very inartistic. The perspective is deceptive, the tower being seen from a level 80 ft. up instead of from the ground.

A gold medal is awarded to Charles R. McIntosh, of Glasgow School, for his chapter house, a design showing considerable artistic power with details well drawn. It is a pity the author should have copied his candelabra directly from an ancient example.

Eric A. Sutherland, of Glasgow School, receives a bronze medal for his museum and art gallery. The plan is good, but the portico would darken the rooms behind, and the piers divided into three by narrow pilasters on each angle.

Silver medals are awarded to John H. James, of Cardiff School, for a public day school well designed, which would have been better without the tower; and to William Jones, of the Leeds School, for a pair of labourer's cottages, in the latter the compromise of stone mullions in front of wooden window frames should have been avoided.

Bronze medals are given to Heber Rimmer, of Chester School, for an artist's house, in which, however, the picture gallery is insufficiently lit; and to James A. Lofthouse, of Middleboro' St. John's National Science Class, for a day school, which has the usual fault of lighting the best class-rooms from behind the children.

In the design for a theatre, by Albert Towle, of Nottingham School, for which a book is awarded, the plan is better than the architecture; and in the design for a country house by William Eaton, of Leicester (Hastings-street) School, the galleried hall is useless and ineffective, and the half-timbering a sham. This is not the only instance of designs with sham half-timber construction disguising a real building of brick, an unworthy trick, recognised, however, by the bye-laws of local boards, but one which masters of Art schools should forbid. If half-timbering is employed it should be the real construction.

A book is given for a figure spandrel by Robert Spence, of Newcastle-on-Tyne, Darhnam College of Science, in which, however, the architectural setting is very bad.

Three designs for a large mansion standing in its own grounds are sent from the Technical College of Sydney, in New South Wales, in which it is presumed the plans are adapted to Australian life. They are all rather poor examples of ordinary European architecture, with classic arcades in stone. Two of them, viz., by Alexander McRae and George M. Poole, for which books are awarded, have a second storey of bed-rooms, wholly in the roof, which is unsuitable for a climate where the summer temperature is at times over 100° in the shade. In these the service-room has no connection with the dining-room.

To one by R. E. Nancarrow, which avoids these defects as well as useless towers, a bronze medal is awarded.

The climate and the new conditions of life ought to produce a native development of architecture, in which the materials and modes of building, the verandahs surrounding the houses, the weather boarding, and even the corrugated iron for walls and roofs, as well as the brick and stone, could be made beautiful.

MEASURED DRAWINGS.

In the class of measured drawings, the Examiners would like to see some of the mouldings drawn full-size and accompanied by perspective sketches of them to a smaller scale, showing the actual effect of light and shadow. The joints of the stone should always be shown both in plan, elevation, and in full-size details, so as to explain the construction. Projections and thicknesses should also be shown, and elevations should be explained by sections. Sufficient importance has not been attached to the choice of the best subjects for illustration, both in old and modern examples.

A silver medal is gained by John L. Smith, of Birmingham (Ellen-street Branch School), for a set of two drawings of Aston Hall, but his pencil details are not equal to the rest of his work.

In the excellent set of drawings of the door of St. Maclou, Rouen, by Benjamin I. Fletcher, of Leicester (Hastings-street), for which a silver medal is given, we recognise the pains taken to show the construction.

Ernest R. Davis, of Leicester (Hastings-street) School, receives a bronze medal for eight sheets of drawings, which but for faults of perspective and hard outlining would have deserved a higher award.

A bronze medal is gained by James Alfred Swain, of the Birmingham School, for his drawing of a Venetian fireplace, but more details should have been shown.

Of the five drawings of Sir P. Paul Pindar's House, done in the National Art Training School, three had the same mistake to which the teachers' attention should be called. The two others, by Frank Griffin and Claude W. Gray, obtained bronze medals.

Books are given for each of the two drawings of the screen in Hurst Church, near Reading, by J. Arthur Smith and Herbert A. Barkas, of the Reading School. That of Barkas is better drawn, but in some points obviously incorrect.

A book is given to W. H. J. Allen, of the same school, for two drawings of the wood screen in Warfield Church. The sections should have shown the construction and thicknesses of the wood work.

In the drawing of the porch of Adel Church, by Francis C. J. Cockburn, of Wakefield School, for which a book is awarded, if the voussours are of equal size as shown, this example, so far as we know, is unique.

Books are given for the drawings of Aston Hall, by Percy O. Reeves and Joseph Perkins of the Birmingham School, but the pediments do not agree.

Three drawings of an oak settle were sent from Lincoln School, but the object was represented so differently that the examiners were unable to award a prize to any of them.

THE BRITISH INSTITUTE OF PUBLIC HEALTH.

HYGIENIC CONGRESS IN DUBLIN,
AUGUST 17TH, 18TH, AND 19TH.

ON the first day the Congress will meet at the Royal College of Surgeons, at 10.30. The President will deliver an address, and a discussion on the causation of typhoid fever will take place, in which many eminent sanitarians are to take a part. Papers on sanitary subjects will be read. On the evening of Wednesday, a number of the members will be entertained by the directors of the Lucan Hydropathic. On Thursday there will be a discussion on "Compulsory Notification of Infective Diseases." In the afternoon the President will exhibit Carbonic Acid Snow, and explain its properties as an antiseptic agent; and Mr. Robert Hammond, who is carrying out the electric lighting system in Dublin, will give a lecture on "The Sanitary Advantages of Electric Lighting," with experiments. The banquet of the Institute will be held at the Royal Marine Hotel, Kingstown, at 7 p.m. On Friday, Sir Henry Cochrane, D.L., Chairman of the Waterworks Committee, will entertain a large party of members of the Congress at the Vartrey Waterworks at Roundwood.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 163.)

THE chief minerals of this district are anthracite coal or carbon, which is chiefly to be found in the Slieveamargue range of hills, and bordering on the County of Kilkenny. It is found in seams of considerable depth, while it is both hard and heavy when taken out in large blocks. It burns without flame or smoke, and it is strongly impregnated with sulphur. It is difficult to ignite, but, when lighted, it burns with intense heat, and retains this property for a long time. A similar species of coal, but of an inferior description, has been found in small quantities on the Cullenagh Mountains. Also, on the Slieve Bloom range, thin layers of coal have been met with, but in such small proportions and value as to be hardly worth the expense of mining.

Some iron ore has been found, as also copper and manganese; yet, no smelting works have been established, nor is it probable that from them any profits can be realised. Mica slate is another production of the Slieve Bloom Mountains. Shale is to be met with in nearly all the higher elevations of the Queen's County. Millstone grit, marl, and a fine description of sandstone, with freestone and ochre, are known. Besides fuller's earth and fine clays, useful for the manufacture of all kinds of pottery, and earth suitable for making brick, abound.

The subsoil is generally limestone of a

superior quality, and carboniferous. It supplies fine material for building purposes. Sand-pits and limestone gravel beds are very numerous. The great Escir or central gravel mound is traceable near Timahoe; and one of very considerable length, commencing at Rathleague, extending to Maryborough, and continuing to Mountmellick, is especially remarkable.

A very fine description of grey marble, interspersed with white shells, is taken from quarries in the neighbourhood of Stradbally, and it has most durable properties. It admits of a high polish, and it is exceedingly smooth-grained. It is largely used for tombs and headstones, as also for mullions, lintels, and the dressings of public and private buildings. It can be procured in large masses, without flaw or break; yet, strangely too, notwithstanding its proximity to the Grand Canal, this fine marble limestone is almost neglected for purposes of distant exportation.

(To be continued.)

MISCELLANEOUS.

LEVELLING IN MINING WORK.—In connection with mining work, there are numerous cases illustrating interesting applications of levelling. For example, the railway at the Carrara marble mines, owing to the peculiar nature of its alignment, presents several striking features. The Carrara district is situated between Spezzia and Leghorn on the Mediterranean sea-board. The marble strata cover an area of 80 square miles, and reach in places the enormous depth of three-quarters of a mile. The mines, some of which were worked by the Romans as early as 200 B.C., are surface workings at an altitude of 700 to 3,000 ft. above the sea level the aggregate annual output being about 205,000 tons. The railway, which was described in detail by Dr. C. B. Sheibner, in a paper communicated last year to the Institution of Civil Engineers, has a total length from the sea to the mines of 16 miles. The loading stages of the principal mines are situated at altitudes varying from 876 to 1,492 ft., and at short distances apart, but are separated from each other by steep ridges rising up to 3,000 ft. above the sea-level. Owing to the rapid rise of the ground it was found impracticable to send a separate branch up to each mine from Carrara, following the ancient watercourses now occupied by the bullock-cart roads; and rope-traction on inclined planes would have involved placing a stationary engine of 150 horse-power at each of the nine mines. Hence the only practicable alignment with grades of 4 to 6 per cent., to be worked by ordinary adhesion, was that of a series of reverse stations. The grade of $4\frac{1}{2}$ per cent. is fairly uniform throughout the ascent of 1,207 ft., from Carrara to the summit level at Ravaccone. It increases to 5 and 6 per cent. near the Colonnata terminus; and the two safety sidings near Miseglia and Tornone, have a grade of 7 per cent. The works throughout are very heavy, there being 15 tunnels, with a total length of 2.1 miles, and 16 bridges and viaducts; whilst the remainder consists entirely of cuttings and sustaining walls from 16 to 46 ft. in depth. This was rendered necessary, not only by the nature of the ground and the high cost of land adjoining the mines, but also by the loose masses of marble refuse, which could only be avoided by extensive tunnelling.—From a "Cantor Lecture," by Mr. B. H. Brough, published in *Jour. Soc. Arts*.

SALE OF THE PALACE OF ST. CLOUD.—Tenders were received last week for the purchase and removal of the ruins of the Palace at St. Cloud. The contract has been adjudged to a Belleville contractor, who offered the sum of 3,325 francs. The upset price was 3,000 francs. It is estimated that the removal of the old building will cost the contractor over £2,000. The State, moreover, retains the most valuable portion of the remains, including the stuary. The approaching removal of the ruins has aroused much feeling on the part of the population of St. Cloud, as the historical interest of their town will thereby be seriously diminished, and they fear that this will affect its prosperity by diminishing the number of visitors.

CYRUS FIELD.—Mr. Cyrus West Field, the successful promoter of Atlantic cables, who died at New York, on Tuesday, 12th inst., was elected an honorary life member of the Society of Arts in May, 1876, "for his valuable services in connection with the promotion of electric communication between England and America." Mr. Field was born at Stockbridge, Massachusetts, on November, 30th, 1819, and on leaving the school of his native town he became a clerk in New York; soon afterwards

he started a business on his own account, from which he retired in 1853. He now devoted his whole attention to the promotion of ocean telegraphy. In the pursuit of this object he is said to have crossed the Atlantic about fifty times. His first venture was the construction of a line from the coast of Ireland to that of Continental America by way of Newfoundland. He received the unanimous thanks of Congress with a gold medal in commemoration of his successful enterprise.

A HARD CASE.—The case of *Bottoms v. The Mayor and Corporation of York*, heard in the Court of Appeal last week, is no doubt one containing a serious warning for contractors. The plaintiff had contracted to make a sewer of several miles run, and after an apparently superficial examination of the ground, had sent in a tender which turned out to be the lowest, and which, in fact, was so unexpectedly low that his attention was called to it, and he was given the opportunity of reconsidering his estimate, but on doing so adhered to it. No excavations or trial-holes had been made from which the nature of the soil could be ascertained, and when the work was commenced the soil was found to be of such a muddy and porous nature that not only was extensive timbering necessary, but a great deal of the work was ordered by the engineer (who was quite within his rights on this point) to be re-constructed, owing to the manner in which the brickwork had been crushed by the pressure of the soil. The contractor found the work would be ruinous to him, and claimed that the re-construction ought to be counted as new work. Mr. Justice Mathew decided against him, with reluctance (though there could hardly be any doubt as to legal obligation of the contractor), and on appeal there was the same result: judgment for the defendants, accompanied by judicial expression of sympathy for the plaintiff. The practical lessons from this important and unfortunate case are, that contractors should take every pains to ascertain the nature of the ground before undertaking such a contract, and that it is desirable, in fairness to both parties, that some clause should be inserted providing for special modification of the conditions on the judgment of the engineer, on the discovery of any exceptional difficulties which could not be ascertained beforehand. But there is perhaps a moral consideration suggested also. The defendants in this case claimed only their legal rights; but what about their moral duties? The additional cost of the works was not the fault of the contractor; the condition of the ground being such as it proved to be, the cost in any case must have been far greater than the contractor's estimate; and we must say that the spectacle of employers availing themselves of the want of caution of a contractor, to compel him to execute work for them for half the sum which it must in any case have cost, is not an edifying one, and we do not think the Corporation of York have any reason to be proud of their position.—*Builder*.

THE MANCHESTER SHIP CANAL.—The report which has just been presented by the Manchester Ship Canal Committee to the Corporation of that city, will hardly be read with pleasure by the ratepayers. It states that at least one million and a quarter more money will be required, and it suggests that still further amounts than this may be necessary. We have steadfastly maintained that the Corporation of Manchester were not justified in becoming partners in a speculative commercial undertaking, even though such undertaking, if completed, should be of indirect benefit to the city. The present report shows in a stronger light that a community should leave such undertakings to private individuals. We regret also to have to say that the Corporation appear to have embarked in this business without taking proper precautions. The Committee state that it is to be regretted that the estimates first presented by the company to the City Council, and the measurements upon which they were based, should have proved so unreliable. But if the Corporation were to find the money to complete the Canal, the first thing was to ascertain by independent investigation whether the estimates and measurements submitted by the company were correct. The Corporation were coming to the assistance of what was practically a bankrupt concern, and therefore the utmost caution was necessary before one penny of the ratepayers' money was invested in the business. At present it looks very much as if not only the original shareholders would never receive one penny of interest, but also as if the Corporation would have to go without any interest on their first advance. It is constantly forgotten that the Ship Canal will have to bear the brunt of a keen competition by the railways. It stands on altogether a different basis from the Suez Canal, and every million more money that is put into it weighs it more heavily as a commercial undertaking.—*Builder*.

RAILWAYS AND STRIKES.—In the course of his evidence before Lord Derby's section of the Royal Commission on Labour, Sir George Findlay stated that there was invested in railway enterprise in the United Kingdom upwards of £897,000,000; more than £43,000,000 was spent annually as working expenses for wages and materials, and the number of men directly employed constituted an army of 350,000. On the North-Western line 61,000 men were engaged, and during the last thirty years he had only had experience of three strikes, two of which had been settled by the directors conceding the legitimate demands of the men as regards their wages and conditions of labour; but when it came to the point of the secretary of a trades' union dictating what vessels should or should not be dealt with at the company's docks, they felt bound to resist, and in that case the men failed. The true preventive of strikes, he held, was to be found neither in legislation, nor Board of Trade control, nor arbitration, but in the cultivation of good understanding between the men and their employers, and in the establishment of sick, accident, and benefit funds, fostered and assisted by the directors, so as to show that the employers take as great an interest in their moral and material welfare as a private employer would do in the case of valued servants. On the North-Western during the last eight years, while the gross receipts had increased 12 per cent., salaries and wages had increased 21 per cent.; hours had been diminished concurrently with improvement in pay, and Sunday labour had been reduced to a minimum; so that now it was an exception for a man to be employed more than one Sunday in three or four.

ANTIQUITIES FOUND AT KILDARE CATHEDRAL.*

ABOUT the month of August, 1891, the masons who were employed in the restoration works at St. Bridget's Cathedral, Kildare, were removing (with great trouble, owing to the hardness of the mortar) the foundations of the south wall of the chancel, when about 2½ ft. below the level of the ground, they came upon a receptacle containing a skeleton, in the very centre of the foundations. This receptacle was of a very peculiar shape; the inner side was quite straight, and the other was coffin-shaped, the broader end being to the east; it was covered over with rough flattish pieces of quarystone of the "green-flag" kind; the sides were of mortared stone-work. The skeleton was laid full length, with the arms crossed on the breast, and, strange to say, with the head end in the narrow end of the receptacle; beyond the bones, nothing else was discovered. Towards the east end of the same wall a second receptacle, also containing a skeleton, and of the same peculiar shape, was come upon; it differed from the other by having the broad end to the west. One of the skeletons was of large size, and was reckoned by Mr. C. F. Lloyd Cowell, surgeon, to be that of a man not under 6 ft. 6 in. in height. On hearing of the find, some of the old women of the town made up their minds that this must be the skeleton of some saint, and so went and extracted the teeth from the skull, to be used for the cure of toothache by rubbing one of them on the gum where the pain would be. Nothing further was found in the foundations of the north and east walls of the chancel, except some ancient glazed pavement tiles, more or less perfect; they are square in shape, and of red colour under the glazing. Some of them had indented on them foliage and interlacing patterns; others, an animal, such as a boar, with oak leaves and acorns; others, a dog-like animal. Tiles of almost identically the same patterns have been discovered at Great Connell Abbey, County Kildare, and at St. Patrick's Cathedral, Dublin, for information on which see Oldham's "Ancient Irish Pavement Tiles," in which illustrations are given. The Kildare tiles are now in the possession of the Dean of Kildare, who kindly showed them to me.

The Ancient Cross.—Until last year (1891) this cross was in separate portions. First, the base, which stands a short distance from the Cathedral to the south-west; and, secondly, the shaft and part of the head, which stood near the boundary wall on the

west side of the burial-ground; it has now been put together, by the wish of the Duke of Leinster, so that the shaft is again sunk in the socket in the base, out of which it was displaced certainly more than a hundred and fifty years ago. Strange to say, this cross is the only ancient monument of its class to be found at the present time in this once celebrated spot. It is of granite, quite plain, and in three pieces—the head, the shaft, and the base. The head is ringed, with perforations between the ring and the arms, which are 3 ft. 2 in. across; a large portion of the head is broken off and lost; it appears in the same state in a picture of the Cathedral given in Harris's edition of Sir James Ware's Works, which bears the date 1738. The shaft measures 9 ft. 7 in. in height, and in breadth near the base 22 in., with 12 in. of a side-face, diminishing to 16 in. by 10 in. respectively at the top. The base is square, and 4 ft. in height above the ground, near which it has a projection all round; the faces are each about 4 ft. in breadth. In vol. i., at p. 380, of Harris's "Ware's Antiquities," will be found the following reference to this cross:—"About 30 yards from the Round Tower, an ancient pedestal of rough unhewn stone remains, on which formerly stood a cross, the top of which now lieth in the churchyard, but the shaft is converted to a step leading to the communion table."

While speaking of Kildare Cathedral, it may be well to point out a great error in connexion with the Round Tower. In almost every work I have seen on the Antiquities of Ireland, from Harris's "Ware's Works" down to publications of the last year or two, the height of the Round Tower is variously given at from 130 ft. to 136 ft.; while I, with the help of the verger, have measured it carefully, and can only make it 105½ ft. from the top of the battlements to the plinth; this I have done more than once, thinking it strange that so many works could make so bad a blunder.

There is an ancient ash-tree on the north side of the Cathedral, now quite hollow, though still alive, which measures 55½ ft. in circumference 3 ft. from the ground.

THE ROYAL SOCIETY OF THE ANTIQUARIES OF IRELAND.

THE summer meeting of above-named society (previously fixed for the 2nd inst.) will be held to-morrow, the 16th, commencing at twelve o'clock, in the Museum of the Natural History and Philosophical Society, Belfast. In the absence of Lord James W. Butler, the Rev. George Buick, M.A. (Vice-President), will preside.

An excellent programme for excursions, &c., has been arranged by Mr. S. F. Milligan, Hon. Prov. Sec., assisted by Mr. W. H. Patterson and Mr. R. M. Young; and it is to be hoped that, with favourable weather, it will be carried out in its entirety.

The following is a list of the papers to be submitted to the meeting:—

"The Moylarg Crannog, Cullyhackey, County Antrim," by Rev. G. R. Buick, M.A.
"The Anglo-Norman Castles of County Down," by W. F. Lockwood, C.E.

"Notes on the Ancient Records of Carrickfergus," by R. M. Young, C.E.

"Notes on the old Mayor's Seal of Carrickfergus," by John Vinycomb.

"The Ancient Earthworks known as the Dane's Cast and the Dorsey, in the Counties of Down and Armagh," by Rev. H. W. Lett, M.A.

"Irish Stone Axes and Chisels," by W. J. Knowles.

"Notes on some County Down Souterains," by William Gray.

"The Resemblance of Worked Flint Flakes found in the Valley of the Nile to those found in the County Antrim," by William A. Traill, C.E.

"The Diary of Dr. Jones, Scoutmaster-

General of the Army of the Commonwealth, from 13th March, 1649, to 21st June, 1650," by J. C. O'Meagher.

"Members for Ireland in the Parliaments of the Protectorate," by W. R. Scott, B.A.

"Vestiges of Mediæval Sculptured Foliage and other Art Work in the Churches and Abbey precincts of the United Diocese of Down and Connor and Dromore," by J. J. Phillips.

"Notes on the Round Towers of Cloyne, Roscan, and Iniskean," by W. F. Wakeman.

"Some Ancient Ecclesiastical Bronze Bells in Ulster," by S. F. Milligan.

"The Geraldine's Throw" (identification of the spot referred to in a sixteenth-century legend related by Holinshed), by Lord Walter FitzGerald.

Papers by Rev. J. O'Laverty, P.P.:—1.

"The true cause at last discovered why the Irish buried their butter in Bog Banks." 2.

"Ecclesiastical uses of some Caves in Ireland, suggested by the discovery last month of a similar structure in Thessalonica." 3.

"A Note for record on the Books of the Society, that 'Brugh-na-Boinne,' the name of the place where were interred the Pagan Kings of Ireland, is still used as a name for its site."

THE FUTURE OF THE ELECTRIC MOTOR.

In a lecture delivered last month at the annual meeting of the department of Electricity of the Brooklyn Institute of Arts and Sciences, Professor Houston said it was related of Faraday that when asked his opinion of the future of the electric motor, he put up his cane and stopped it. That was Faraday's opinion. Professor Houston's opinion was more favourable. The true efficiency of a triple expansion steam engine, he said, did not exceed 17 per cent. as a maximum. With the electric motor we could already get an efficiency of from 90 to 95 per cent., but it was to-day dependent on the steam engine. A cheaper method would be devised for generating currents, and he believed there were now those living who would see the steam engine relegated to the scrap heap. Possibly a means would be devised of converting the latent energy of coal directly into potential electric energy. He believed in the successful solution of the problem of aerial navigation in the near future. He was confident that ere long our present methods of electric illumination, in which 97 to 98 per cent. of the energy was expended in useless heat rays, would be supplanted by one in which the order was reversed—in which 97 to 98 per cent. would be converted into light, and but 2 or 3 into heat.

TENDERS.

For the construction and erection of reservoirs, filter-beds, machinery houses, &c., in connection with a supply of water to the town of Lurgan:—

Mr. James Henry, of Antrim-road, Belfast £10,650

For building a house at Youghal. Mr. D. J. Coakley, architect, 86 South Mall, Cork:—

| | |
|----------------------------------|------|
| D. O'Callaghan, Cork | £725 |
| T. M'Sweeney, Youghal | 659 |
| H. Long | 600 |
| J. J. Coffey, Middleton | 545 |
| Barry, Brothers, Middleton | 530 |
| M. Murray, Youghal (accepted) .. | 490 |

For enlarging Roman Catholic Church, Carrigaline. Mr. D. J. Coakley, architect, Cork:—

| | |
|---------------------------------------|------|
| T. Duggan, Cork | £900 |
| T. Flynn, Cork | 887 |
| J. J. Coffey, Middleton (accepted) .. | 647 |

For building a chimney stack to Messrs. Casey's brewery, Drogheda. Mr. W. J. Baring, architect:—

Messrs. H. and J. Martin, Dublin (accepted).

FINE WEATHER.—Now is the time for Painting all outdoor work that requires protection from the weather. All who intend Painting should write to CARSONS, Bachelor's Walk, Dublin, for their new price list with patterns of a hundred shades of Paint, all prepared so that any person can apply them. The simplest, cheapest, and most durable to be had.

* From note in *Jour. Soc. Antiq.*, by Lord Walter FitzGerald.

THE IRISH BUILDER.

VOL. XXXIV.—No. 785.

THE ROYAL

SOCIETY OF THE ANTIQUARIES OF IRELAND.

SUMMER MEETING IN BELFAST.

IN the absence, through indisposition, of the President (Lord James Wandesforde Butler), the chair was taken by the Rev. G. R. Buick, M.R.I.A., one of the Vice-Presidents.

THE PRESIDENT'S ADDRESS.

When it was first proposed to hold this meeting—now more than a year ago—I, in common with yourselves, had hoped that Bishop Reeves would be here to grace the gathering, guide our deliberations, and stimulate and enrich us with his ripe and rare experiences in those fruitful fields of antiquarian lore which he so long and so successfully cultivated. The hope has not been realised. It has been otherwise ordered. "God's finger touched him, and he slept." We mourn his absence, yet feel somewhat as Xenophon felt when the tidings came to him of his son's death. He was sacrificing at the time, and, hearing what had happened at Mantinea, tore off the garland. "But," said the messenger, "before his death he killed a leader of the enemy with his own hand." Instantly the father resumed the garland and the sacrifice, nobly saying, "My son's glory consoles me for his death." Bishop Reeves' glory consoles us not a little for his death. It is the glory of one who when he died was our greatest Irish scholar. It is the glory of one who stood head and shoulders above his fellows as an ecclesiastical archæologist. It is the glory of one who has slain the enemies of his country's reputation with the bloodless weapon of historical truth, and has died triumphant, guarding her honours, and furthering her interests, and telling of her greatness, and feeling to the last

"She's not a dull and cold land,
No, she's a warm and bold land,
Oh, she's a true and old land,
This native land of mine."

Nor is his the only presence we miss to-day. Canon Grainger, a man with whom "the elements were so finely mixed" that he was an enthusiastic naturalist, able archæologist, learned divine, delightful companion and friend all in one, has no longer a place on our muster-roll. The blank left by his decease is a large and distressing one. It will not soon be filled—never, indeed, to some of us. This his native city honours his memory as one of her most distinguished and large-hearted sons. We honour it not less, but more. His portrait hangs upon the wall of one of her finest public buildings. It has a better enshrinement still in our hearts. Members die, but the work of the society goes on, and that, too, with marked success. We may well be proud of our numerical position, numbering, as we do, over a thousand members. And we have still greater reason to be proud of our *Journal*, replete as it is with attractive and erudite papers on almost all subjects directly connected with the Ireland of the olden time, and teeming with illustrations alike beautiful and truthful, as admirably designed to per-

petuate the exact outlines of the objects described as to aid the mind in grasping quickly and accurately the facts recorded or the conclusions reached. The results of our labours thus embodied in fact and figure are valuable in a high degree. We are doing a work fascinating and useful, it is true, to ourselves, but none the less on this account a work fraught with immense importance to the nation at large. We are re-writing the annals of our country—and glorious annals they are, despite the many stains which admittedly sully their pages—re-writing them, not with the quill of fancy or of sentimental *dilettantism*; but, if I may so put it, in deference to more modern and much better methods, with the steel pen of rigid investigation and in the ink of inductive, and, therefore, truly scientific, accuracy. Recently, when we were holding a meeting elsewhere, a peasant woman of the district visited, with covert sarcasm, said to one of our more prominent members, a neighbour of her own, "These are clever men, sir; are they not?" "Very clever men." "Well, its mighty simple business they're about." We can afford to smile at the innuendo—an innuendo, by the way all too common. We are doing a work of national importance—a work which the State should do, but doesn't, and which in reality is worth millions to the State. We are considering what, after all, is part and parcel of our country's greatest wealth—the knowledge of her early condition, her arts and architecture, her literature and learning, her customs and colonisations. We are throwing a flood of light upon her past, and so helping to mould her future. We are clearing the ground, and laying down landmarks, sure and certain, for the guidance of our coming historians, artists, politicians, and philanthropists. In short, we are accumulating a mass of reliable facts explanatory of the making of this Ireland of ours, and at the same time illustrative in no small degree of primitive culture periods elsewhere. And, to use the words of Petrie, the great pioneer of the work in which we are engaged, we are doing all this in "a spirit untinged by the slightest admixtures of prejudices, either political or sectarian." You will pardon me, I am sure, if I add, in words not less familiar, although slightly altered, the better to suit my purpose—

"Oh, long may last the friendship fast,
Which binds us all together;
When all agree, old ill shall flee
Like clouds in stormy weather."

No doubt we have not accomplished as much as we might have accomplished. But a great deal has been done, and well done. What a different aspect the early history of Ireland presents to-day to what it did, say, in the days of Keating and Ware, or of Vallancey and Molyneux! How many knotty problems have been solved since Petrie and O'Donovan, O'Curry and Dunraven, Reeves, and Wakeman began their labours. What a rolling back there has been of mists and vapours from about not a few of the epoch-making events of our distant past! How steadily we have pushed our way back from the known to the unknown, widening at every step the boundaries of our horizon, and increasing the sum total of our knowledge. We now know, for instance, that the round towers were belfries and keeps attached to Christian churches, and erected at various periods between the sixth and thirteenth centuries; that the crannogs, or lake dwellings, reached their point of highest development about the time of the Danish invasions;

that the marvellous art of the illuminated manuscripts, such as the Book of Kells—the most beautiful book in the world—and the Book of Durrow; of the metal work enriching such antiques as the Chalice of Ardagh and the Tara Brooch; of the sculptured stones and fine standing crosses, is an art of purely native growth, covering a period extending, roughly speaking, from the sixth to the twelfth century inclusive; that the passage from the use of bronze to that of iron (as proved by the Lisnacrogghera finds in the Grainger Museum) took place about the time of the introduction of Christianity; that the peculiar method of writing known as Ogham belongs for the most part to the early Christian times; that the cromleachs are not Druids' altars, nor the stone circles Druidical temples, but both alike sepulchral monuments; that the majority of our raths, though popularly styled Danish forts, were not erected by the Danes at all, but by early colonists, probably those known as the Tuatha de Danaans, and that the Stone Age in this part of the world—if ever, indeed, there was a Stone Age, pure and simple, in Ireland, which in my opinion, is questionable—came down to comparatively recent times. These positions may be taken as finally established; or, at any rate, if any of them should be questioned, they are yet near enough the truth to afford us reliable and helpful landmarks in threading our way backwards, first from historic times to what the Germans appropriately call protohistoric times, and, then, from protohistoric to prehistoric times. They are the salient features of our country's earlier story. They give a wonderful amount of definiteness, where so much is mythical and misleading, to our conceptions of the people's life, and the progress of their culture in those far-off times. And they are a standing testimony to the value of that "true antiquarianism which bore up history and tradition to be tested by fact." But if much has been done in the way of re-writing our annals, much still remains to be done. Despite the fact that so many prominent and specially attractive subjects have been practically settled, a grand future awaits the Irish antiquary. "There is much land yet to be possessed." The hulk, perhaps, of the relics of the past remaining to us, many of them in great danger of soon and for ever disappearing, have still to be accurately figured and described. Information is still required about the men and manners and momentous events of the centuries which lie nearest to us. The earlier days of Christianity suggest a very multitude of intensely interesting questions, for the solution of which more light is needed. Our folklore presents a fascinating and productive field of research hitherto almost entirely ignored. If not soon entered upon, the already ripened harvest will be lost beyond recall; and what a sphere for noble and needed labour there is in the quarry of prehistoric investigation! Who were the first inhabitants of our island?—where did they come from, and about what time? What was their condition, socially and otherwise? What elements have they contributed to the civilisation we ourselves enjoy? With work such as this to be done, and questions such as these to answer, who that will may "win his spurs." There is room for all, and rewards for all.

"For we are ancients of the earth
And in the morning of the times."

May I express on behalf of the Royal Society of Antiquaries the hope that this Athens of

the North will contribute its share, and even more than its share, of willing and able workers. The *Ulster Journal of Archaeology*, a perfect mine of antiquarian wealth, and for which we can never be sufficiently thankful to its editor, Mr. M'Adam; Benn's History of Belfast, the guide-book prepared by the Naturalists' Field Club, Mr. Milligan's "Glimpses of Erin," and last, but by no means least, Rev. Mr. O'Laverty's able volumes, replete with information; Mr. R. M. Young's exquisite reprint of the Town Book encourages me not only to do so, but to believe that the hope will be amply realised. It has always seemed to me both a puerile conceit and a gross misconception of the city's position and spirit, to represent the bell upon her escutcheon as held hard and fast. The picture most assuredly is not correct, so far as the love of antiquarian pursuits is concerned. This bell, at any rate, has been kept going tunelessly and usefully. M'Adam and Carruthers and Getty and Hume and Oulton and Reeves held the ropes for long. And now that they have stepped aside, not less enthusiastic and skilful are the men who supply their places. But more are needed, and the work to be done may be overtaken and "the melodies abide." And what a work it is! How attractive in itself! How bracing to the intellectual and moral powers of those who engage in it! How well adapted to fit for everyday life by increasing business capability, and developing that judicial calmness and moderation of sentiment so essential to comfort and success! How full it is of the promise of future good in other directions—as, for example, the cultivation of artistic tastes, the training of the memory, the right use of the scientific imagination, the appreciation of the inestimable value of truth! How suited to old and young, to rich and poor, to those who are in search of a pleasant and profitable hobby, and to those who would love the land that gave them birth (and who would not?), as Teunysen would have them love it, "With a love far brought from out the storied past and used within the present;" and who, in the strength of this enlightened and patriotic affection, would do at least something to

"Ring out the thousand wars of old,"

and to

"Ring in the thousand years of peace."

But I may not wait to dwell on this. Our time is limited, and we have a long programme to go through. Rather let me say how pleased we who come from a distance are to have this opportunity of meeting our fellow-members of Belfast in their own magnificent city, and in this hall, kindly granted to us by the Belfast Natural History and Philosophical Society. Assuredly it would not be their fault, nor the fault of Mr. Milligan, if we do not have a pleasant and profitable meeting, and I am no less sure that it will not be to our credit as visitors if, when all is over, and we come to say goodbye, we do not find ourselves making their motto our motto, and saying with all our hearts, "*Pro tanto quid retribuamus.*"

THE PAGAN AGE IN GREAT BRITAIN.

THE early paganism of a nation constitutes so important a feature of its manners, that it is hardly excusable in most English historians to have passed over so heedlessly that of the Saxons. Its leading characteristics are by no means well understood. The old Edda describes one sort of system, the new Edda another. In his decayed intelligence, from sources which it is not easy to discover, but which supply very probable accounts, Verstegan describes a third set of idols.

The pedigrees in the Saxon families ascend to one or other of the divinities in the Edda. This may prove the resource of a skald, whose ignorance pierces no deeper into the night of antiquity. It may be, how-

ever, the real genealogy of the British conquerors. Ancient testimony does not oppose the placing of Odin, about the time of Constantine; as if paganism, to avenge her defeats in the south, had created and inspired a hero-prophet in the north.

The old inhabitants of the soil in Britain, who had been subdued by the power of Rome, and in some degree by civilisation and by her laws, were afterwards harassed by rude Continental barbarians. With great difficulty, these had been kept at bay, even by Trajan, Severus, and Theodosius. Then, that same expedient, which everywhere marked the declining empire—the employment of barbarians to resist barbarians—is said in Britain, also, to have been the immediate cause of those calamities which followed. A British chief is stated to have invited the Saxon stranger from across the German sea. After the middle of the fifth century, the kindred tribes of Angles, Jutes, and Saxons divided the land among them, but in very unequal proportions.¹

The learned Sharon Turner has failed to give a minute account, regarding the heathenism of the Saxons, or touching the mythological notions and rites, introduced by the son of Odin. The long duration of heathenism in England has not been sufficiently noticed; it maintained ground much longer than most historians are willing to admit.

After their arrival in England, the Saxons come under historical notice, owing chiefly to the writings of Venerable Bede. He belonged to this race, but his education was received from Irish monks at Liudisfarne. However, previous British writers, and especially Nennius, had treated regarding the Saxons. Through ancient charters and chronicles, we obtain a very correct idea of their subsequent history.² Not alone were the pagan Saxons illiterate, but it is thought they disregarded monuments of literature, carefully preserved by the ancient Britons, Cymri, and Scots. Most English writers assert, that they had no knowledge of an alphabet.³ Owing to laborious researches in the present and previous centuries, we have learned much regarding their social habits and customs,⁴ after our Irish missionaries had spread the light of Christianity and the knowledge of letters among them.⁵

The Teutonic, and indeed, the distinctively Saxon, invasions of Britain began, not in the fifth century, but in the fourth.⁶ Some, and probably many, of those towns and villas, whose foundations and whose tessellated pavements are now uncovered only by the plough, or which lie buried under existing cities, were the luxurious habitations of a Roman people. But, the same great movements, which had already overwhelmed the heart of the empire, were now breaking with equal violence on its most distant shores.

An impenetrable veil has been drawn over the history, superstitions, and traditions of the ancient Caledonians, nor have Scottish

writers left us any very authentic memorials. The Picts inhabited the whole of modern Scotland, to the north of the great range of the Grampian Mountains. The Irish had planted colonists, especially in the south-western parts, retaining their former title of Scots, and after the lapse of some centuries, the latter denomination became exclusively appropriated by dwellers in the new settlements. About the time of St. Columba, who with his monks came over to Scotland after the middle of the sixth century, our knowledge of that country really begins. As regards Scotland, we get behind the age of history, and not only behind it, but behind it by many centuries. The history of Scotland, properly so called, begins with Malcolm Ceanmore; and before he was born, Columba had been gathered to his fathers, for more than 400 years. Those who are very rigorous in the definition of history, and who demand for it as essential the existence of contemporary records, will find a much wider gap to be filled between the day of Columba and the beginning of Scottish history. Fordun and the other chroniclers, who are considered the fathers of that history, lived⁷ no less than 700 years later than the great apostle of the Picts. In the days of Adamnan, Scotland was not Scotland, but "Albyn." "Scotia" was then the familiar name for that island, which we now call Ireland. In like manner, England was not yet called England, and the very foundation of its national life had not then been laid.⁸

With English historians, it has been very usual to assert, that the small Roman letters used in modern times were originated by the Anglo-Saxon monks, without at all taking into account the masters who first taught those monks the very elements of learning. Early in the seventh century, the Irish missionaries came among the pagan Saxons from Iona; and from the kingdom of Northumbria the stream of Christianity and letters began gradually to spread among the mid-Angles and southwards during the lapse of time. No doubt, St. Augustine had some success in the kingdom of Kent, but it was the impulse given by the northern Scottish missionaries, that effectively converted the Saxons as a race to Christianity.

SANITARY LEGISLATION.

At the recent meeting of the British Institute of Public Health, held in this city, a paper on the above subject was read by Major Greenwood, M.D., in the course of which he said:—

Of all the questions which of late years had agitated the public mind, none had been more important than that of Public Health—how it might be preserved; how the numerous diseases that decimated humanity might best be controlled, and the brief span of earthly existence prolonged, might well be considered a subject worthy of attention. Before the beginning of the present century, it could scarcely be said that there was a science of Public Health, although at all periods of the world mankind had been compelled to recognise some of the elementary laws of hygiene. It needed little imagination to picture to one's self the homes of the people in the past; if they considered the filth and squalor of their surroundings, they could not much wonder at the violence of the epidemic diseases that decimated them. The only wonder was that people still continued to multiply, but when they considered the rate at which the population had increased in this country during the present century, and com-

¹ See Edward A. Freeman's "History of the Norman Conquest of England, its Causes and its Results." Vol. i., chap. ii., sect. i., p. 21.

² See Sharon Turner's learned "History of the Anglo-Saxons; comprising the History of England from the earliest period to the Norman Conquest," in three volumes, 8vo, 4th edition.

³ See William Camden's "Britannia."

⁴ See regarding them that admirable work of John Mitchell Kemble, "The Saxons in England, a History of the English Commonwealth till the period of the Norman Conquest," in two volumes, 8vo.

⁵ See a statement of the learned antiquary Dr. Parsons.

⁶ See Edward A. Freeman's "History of the Norman Conquest of England, its Causes and its Results." Vol. i., chap. ii., sect. i., p. 12.

⁷ See "Iona," by the Duke of Argyll, chap. i., p. 54.

⁸ See *ibid.*, p. 55.

pared it with the rate of increase some four centuries ago, they could form some idea now unsanitary influences—including under the head, want, privation, and ignorance—might interfere with the growth of a nation. Sanitary legislation till quite recent times was very slow. [The lecturer then traced the progress of sanitary legislation from the time of James I.] As to recent reforms, if at the present day they glanced over the statute book, it would appear that they had ample means for obtaining a far more efficient sanitary state than they at present enjoyed, but it should not be forgotten that it was one thing to have laws, and quite another to have them properly carried out. One great mistake of sanitary legislation was, that too frequently the powers for carrying out the provisions of the act were placed in the wrong hands—the enforcers of the law were those most interested in maintaining the abuses of the law which it was intended to redress. In many cases action could only be taken by the local sanitary authority; and when they considered that that authority was not unfrequently largely made up of those who were the guilty parties, and to whom the enforcement of the law would mean a considerable pecuniary loss, they could hardly be surprised at the lack of energy so frequently shown in administering those laws, nor at the unpopularity incurred by a too active medical officer of health who allowed his zeal to outrun his discretion. As to the smooth working of their sanitary enactments, due discretion should be shown in their carrying out, as they pressed very severely on some class of the community, and especially the poor.

**ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.**
(Continued from page 176.)

*Succession of Parish Priests from 1604 till
1809.*

AFTER the death of Dr. Nary, in 1738, the parish of St. Michan continued to be governed by many able and zealous pastors; and the old chapel in Mary's-lane became one of the most popular in the city, in consequence of the number of learned and eloquent preachers who frequented it, especially the Jesuits, who chiefly officiated in it since they were deprived of their own chapel in Mass-lane (now Chancery-place) by the Protestant Dissenters in 1747. The Jesuits' chapel in Mass-lane, which was formerly a portion of the old Dominican Priory, was given to them by King James II., where he frequently assisted at Mass whilst in Dublin, from 1688 till 1690.*

We are unable, owing to the meagreness of the few records of the parish which have been preserved, to give a complete Succession of the Pastors of St. Michan's parish. This may chiefly be attributed to the disturbed times in which they lived, rather than to any contributory negligence on the part of those who, under more favourable circumstances, would have them preserved. But from what we have gleaned from the Chapter-Books, and other records, the following list of the Pastors of St. Michan's from 1604 till 1702; and from the death of Dr. Nary

until the foundation of the present chapel in Anne-street, with a brief memoir of each, may be of some interest.

1604. NICHOLAS NETTERVILLE,

Son of Nicholas, 1st Viscount Netterville, received his education in France; where having joined the Order of Jesuits, he subsequently taught philosophy, and afterwards returned to his native country, and officiated in the district of St. Michan's parish. He died in 1607.

1630. WILLIAM BROWNE.

1680-1701. JOHN DEMPSEY.

(See IRISH BUILDER, 15 Aug., 1892.)

1702-1738. CORNELIUS NARY.

Dr. Nary died 3rd March, 1738. His death is thus announced in *Pue's Occurrences* of 4th March, 1738:—"Last night died Dr. Nary, at his lodgings in Bull-lane, in the 79th year of his age."

(See IRISH BUILDER, 15 Aug., 1892.)

1738-1744. DENIS BYRNE,

Dean of the Chapter of Dublin.

1744-1763. PATRICK FITZSIMON,

Dean of Dublin, and subsequently Archbishop of Dublin (1763-1769). Formerly of St. Paul's, from whence he was translated to this parish. He died in Francis-street, at the advanced age of 76 years, and was buried at Clonsilla, County of Dublin.

1763-1774. JAMES DOWDALL,

Was for some time Dean of Dublin. He died in 1774.

1774-1798. JOSEPH DIXON.

A highly-educated, talented, and pious ecclesiastic, who combined great firmness with peculiar suavity of manners. When the Catholic Relief Bill was passed in 1782, Dr. Dixon took the prescribed oath in accordance with the act, and signed himself parish priest of St. Michan's, residing in Greek-street, and 43 years of age. He resigned this parish in 1798.

Romance of the Gormanston Peerage.

Dr. Dixon, soon after his appointment as pastor of this parish, had to leave for Paris, where he had been educated, to protect one of his young flock from being brought up in the Protestant religion, under the following circumstances: Anthony [Preston] 11th Viscount Gormanston, of the ancient and noble house of Gormanston, so created in 1476, whose ancestors clung to the Roman Catholic religion, and withstood the bribes and confiscation of the troublous times of the 17th and 18th centuries, was the eldest son of Jenico, 10th Viscount Gormanston, and his wife Thomasine, eldest dau. of John Barnewall, 11th Lord Trimleston. On the death of his father, 31 Oct., 1757 (his mother *d.* 16 Jan., 1788), he succeeded him in the title as 11th Viscount Gormanston, and *m.* Henrietta, dau. of John Robinson, of Denston Hall, County of Suffolk, Esq., and by her (who survived him, and *m.* 2ndly Major-General Christopher Jefferson) had an only son, Jenico, his successor. The Viscount died 15th Dec. 1786, and was succeeded by his son.

JENICO, 12th VISCOUNT GORMANSTON, *b.* 4th Jan., 1775, was a minor at his father's death. His mother, who was a Protestant, sought to make him a ward in Chancery, and to have him educated and brought up in her own religious tenets; but his grandmother's relatives, in order to avoid observation and importunity, removed him from Gormanston Castle to St. Michan's parish. But

his pursuers having obtained an order from the Court of Chancery to put him under its care, that he might be reared in the religion of the State, the Rev. Dr. Dixon, at a moment's notice, fled with his young charge to Paris to superintend his education, and there he remained with him until he attained his majority. Whilst in Paris, he was obliged to have a well-armed person with himself to take care of his charge, who, on more than one occasion, was about to be hoodwinked in the evening, and carried away by force. This was prevented only by the vigilance and courage of his protectors. The benevolent Father Dixon, being a good swordsman, had to do a little with an elegant cane-sword given him by one of the princes of the blood in France.

The young Viscount *m.*, 27th December, 1794, Margaret, eldest dau. of Thomas Arthur, 2nd Viscount Southwell, and his wife Sophia-Maria-Josepha, 3rd dau. of Francis Joseph Walsh, Count of Serrant, in France, by whom he had issue. On attaining his majority he, together with his young wife, returned to Ireland to take possession of his ancestral castle and estate of Gormanston; but, from his long absence under such peculiar circumstances, he found that his titles were declared to be dormant. The Viscount's claim to this title was admitted, after a solemn hearing, by the Irish House of Lords, July 25th 1800, whereat it was proved that he was descended in a direct line from Sir Robert de Preston, created Viscount Preston 1478.

On Dr. Dixon's return to his parish, he had the happiness to have ocular demonstration of what he had before learned, from his continued anxious enquiries, viz., that his parishioners were well taken care of by his worthy representative, Father Mulcaile, S.J., and the other assistant priests, Kelly, Corr, Farrell, Browne, &c.

The Rev. James Philip Mulcaile (or Mulhall, his family name, and by which he was better known), to whom Rev. Dr. Dixon left the charge of his parish during his necessarily prolonged absence in France, was born in Kilkenny, May 1st, 1726, where he received the first rudiments of his education. In 1736, at the early age of ten years, he went to France, where he joined the Society of the Jesuits. In 1763, having received the order of priesthood and made his profession, he returned to Dublin, and attached himself to St. Michan's parish, where he assisted the parish priest in the discharge of his most important duties. Like the great Dr. Betagh and Father Austin, he divided his time between the service of the altar and the education of youth. He had the boys' school of the parish enlarged, so that from 600 to 800 were daily educated, about 200 clothed, and 30 or 40 entirely provided for. Father Mulcaile was a most distinguished scholar, a profound master and translator of Greek, Latin, and English; a sound theologian, and a most able controversialist, and was the author of several learned works, amongst which was his translation of the great work by Abbé Feller, *The Philosophical Catechism*, Dublin, 1800, 3 vols. 12mo. He also translated, or revised the translation, of many of the works of the famous Abbé Grou. In 1795, the Most Rev. Dr. Troy, Archbishop of Dublin, appointed Father Mulcaile his Vicar-General and Archdeacon of Dublin. He died at his residence in George's-hill, next door to the Convent, December, 1801, and his remains were interred in the vaults of the

* The Order of the Society of Jesus was suppressed by Pope Clement XIV., and its members became secular priests. All the Jesuits who were then in Dublin assisted the parish priests in the discharge of their parochial duties, by preaching and by teaching in schools. In 1814, Pope Pius VII. restored their Order, after which they once more formed themselves into a community. Their first house in Dublin after the Restoration, was the old chapel in Hardwick-street, previously attached to the Convent of Poor Clares, who removed to Harold's cross in 1804. (See IRISH BUILDER for May 15th, 1892.) From Hardwick-street they removed to their present church in Upper Gardiner-street, about 1834, the foundation-stone of which was laid in 1829.

Convent chapel, at his own request, without any inscription.

[The Presentation Convent, George's-hill, was founded by an extraordinary gifted and exemplary woman, Miss Teresa Mullaly, the daughter of a very humble provision dealer, at the corner of Beresford-street, in Mary's-lane. She at first took a small outhouse, nearly opposite the old chapel in Mary's-lane, where, on Sundays and holidays, she taught such of the children of the poor as she could collect around her. She was soon joined by two pious ladies, Miss Corbalis, and Miss Judith Clinch, sister of J. B. Clinch, B.L., a celebrated Barrister, of 3 Eccles-street. Miss Mullaly went to Cork to inspect the Convent of the Order of Presentation, just founded by Miss Nano Nagle; and on her return she applied for assistance to the Earl of Fingal, Lord Kenmare, Lord Ffrench, Sir Edward Bellew, and other Catholic nobility, who generously responded to her call. In a short time, assisted by the zeal and influence of the Rev. Father Mulcaile, ample funds were collected to purchase the large piece of ground, in George's-hill, on which an old glasshouse stood. In 1787, several houses were then erected for schools; and finally, in 1794, the convent and chapel were solemnly opened; and among the first inmates of the convent were Miss Mullaly and Miss Clinch (Miss Corballis having previously died in the Castle of Dunsoghly, near Finglas, where she was staying for the benefit of her health), and Father Mulcaile, S.J., was the first Chaplain, whose portrait is yet preserved in that convent].

1798-1802. NICHOLAS WADE.

[D'Alton, in his "History of the County of Dublin," under *Lusk*, says that "in the aisle of the old church of Lusk there is a tombstone to Christopher Russell, who died in 1750, erected near the spot where his relative Archbishop Russell was buried; and a mural slab of white marble and two tombstones beneath, to the Rev. Nicholas Wade, parish priest of St. Michan's, Dublin, who died in 1802, and his ancestors of New Haggard and Tomminstown, since 1738.]

1802. JOHN BAPTIST HAMILTON,

Was pastor for a short time in 1802, having been previously in Balbriggan, and subsequently translated to the parish of St. James, Dublin.

1802-1807. THOMAS MAGUIRE.

Translated from St. James's parish, and had been previously parish priest of Blanchardstown, County of Dublin; an active and intelligent priest.

1807-1824. CHRISTOPHER WALL,

Was also translated from St. James's parish. He was the last pastor of Mary's-lane chapel, and the first of Anne-street chapel. During his administration, guided by him, and with the assistance of his parishioners, a meeting was called, at which resolutions were passed for the purpose of purchasing a piece of ground whereon to build a new parochial church and presbytery, instead of the old and then dilapidated chapel in Mary's-lane. Three parochial delegates—Captain Bryan, J. P. Doyle, and Bernard Coyle, Esqrs.—were requested to act as parochial collectors. They were not long in raising so large a sum, that in conjunction with the rest of the committee appointed, and other influential gentlemen, they were enabled to purchase the only available piece

of ground in the parish, on which to commence the present splendid church in North Anne-street. This piece of ground, which is on a portion of the Abbey Green, extends from Anne-street to Halston-street, where it terminated in a crescent fronting the old gaol and court-house; and was bounded on the north by houses in Ball's-lane, and on the south by the rere of a house and garden in Cuckoo-lane; on the west by Anne-street, and on the east by Halston-street. It is described on the lease of the plot thus:—

"Whereas by Indenture, dated the fifth of March, one thousand seven hundred and ninety-eight, made between Thomas Newcomen of the first part, and Catherine Hoey of the second part, John Murdock and Oliver Milling of the third part, and William Holmes and Harvey Brabazon of the fourth part, the said Thomas Newcomen did assure unto the said John Murdock and Oliver Milling, amongst other, All that one brick house with a backside, garden, and stables, and house of office thereunto belonging, situate, lying, and being in Oxmantown, on the Green of Saint Mary's Abbey in the suburbs of the City of Dublin, with the appurtenances. To hold the same, &c., for the term of five hundred years, to be computed from the First of March, 1798."

In 1853, April 30, the above plot of ground, on which the present church now stands, was sold in the Incumbered Estates Court, before the Right Hon. Baron Richards and Mountfort Longfield, LL.D., on the petition of James O'Ferrall, the Rev. Peter Segrave, and Anne Segrave, *ex parte* Benedict Arthur, owner, when it was purchased by his Grace Paul Cullen (late Cardinal), Archbishop of Dublin, for the sum of £250, in trust for the parishioners, in the names of Archdeacon John Hamilton and Rev. Joseph Christopher M'Cann.

Amongst the other munificent subscriptions and donations obtained towards the building of the church, is recorded the splendid offering of Captain Bryan, of Jenkinstown, County Kilkenny, of £300, with £100 yearly until the church would be completed, together with £100 for his son; the two other delegates of the parish, whose names are given above, donating between them the sum of £120. The committee, feeling especial gratitude to Captain Bryan, who, although only a short time resident in the parish, rendered such efficient assistance, not only in money, but by accompanying the other delegates to every house therein, had his family arms emblazoned in the porch at the entrance of the church, where it still remains.

The Arms are: Gules, three lions passant, two and one, or, between two cinquefoils.

Crest.—A sword erect proper, pommel and hilt or, between two lions gambes, couped erect, gules.

Motto—"FORTIS ET FIDELIS."

CAPTAIN BRYAN.

[The above-named munificent donor to the new church, Capt. George Bryan, of Jenkinstown, County of Kilkenny, was the only surviving son of George Bryan, by his wife Catherine, *dau.* and heir of James Henry Byrne, of Oporto (by his wife, Catherine Xaveria, *dau.* and heir of James Eustace, of Yeomanstown, County of Kildare); and was great-grandson of James Bryan, of Jenkinstown, M.P. for the City of Kilkenny in 1689-90.

He was born 3rd Nov., 1770, and had a commission in the army as captain of

Dragoons. In 1804, 4th Feb., he was appointed major of the Kilkenny Militia; and in 1805, on the death of his uncle, James Bryan, he succeeded to Jenkinstown. He was one of the most active leaders in the movement in favour of Catholic Emancipation. His maternal grandfather, Henry Byrne, being son of Sir Gregory Byrne, 1st Bart., of Tymogue, Queen's County, by his 2nd wife, Hon. Alice Fleming, *dau.* of Randal, Lord Slane, Major Bryan preferred a claim to the Barony of Slane in 1829. The House of Lords, however, resolved, on 1st Sept., 1835, that he had not made out his claim.

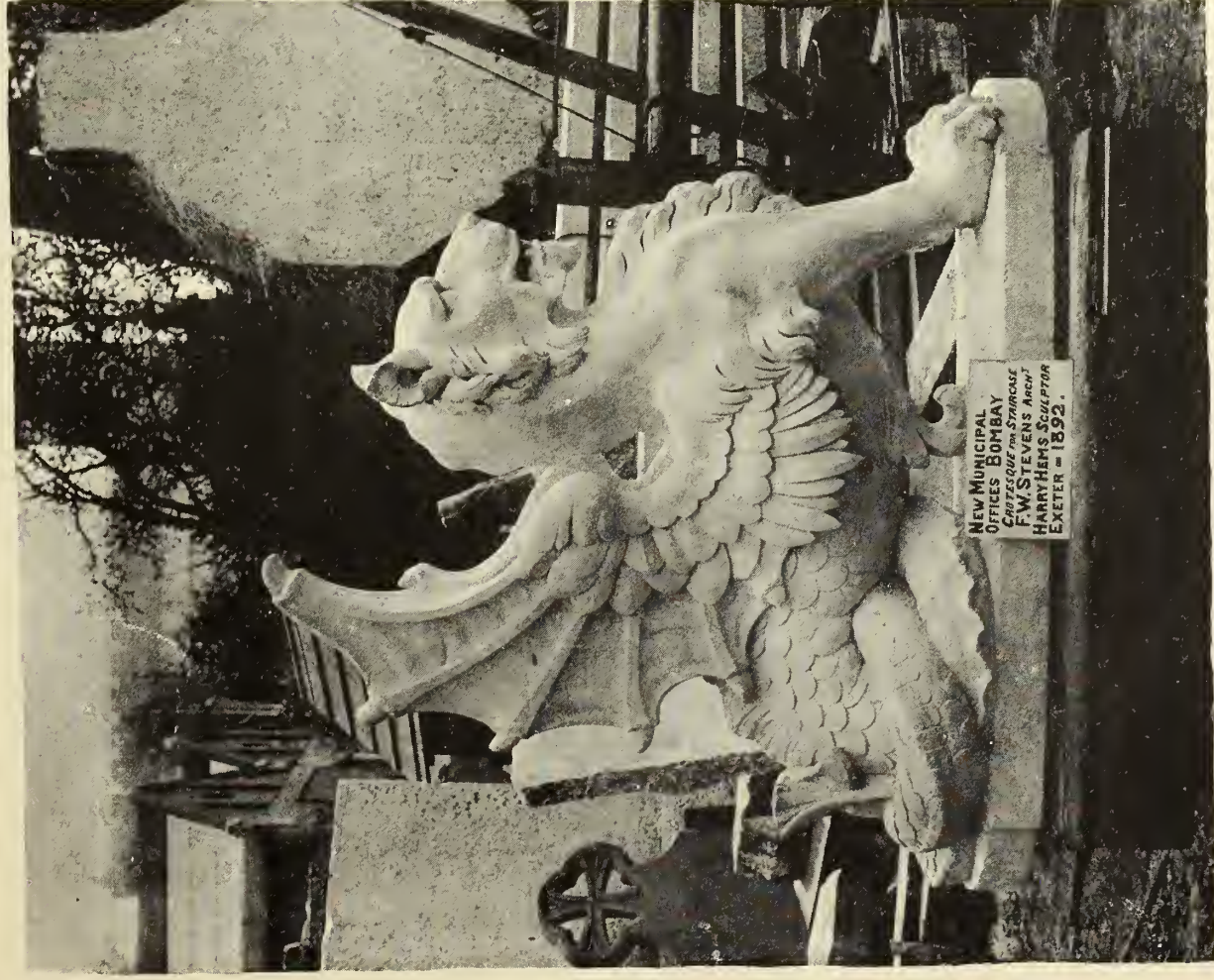
In 1830, he was appointed High Sheriff of the County of Kilkenny, being the first Roman Catholic who held that office since the year 1690. He represented his native county in two Parliaments, each time without a contest, until his death, 3rd Oct., 1843. He *m.* in 1794 the Countess Marie-Louise de Rutaut, *dau.* of Count de Rutaut, of Lorraine, and had a *dau.*, Mary-Napoliana, *m.*, 30th Sept., 1817 (divorced 1822), Colonel Sir John Milley Doyle, K.C.B., M.P. for Carlow, 1831-32; and a son—George, of Jenkinstown, born 25th Oct., 1796 (*d.* Nov., 1848), Col. Kilkenny Militia, High Sheriff, 1846; *m.*, 21st March, 1820, Margaret, youngest *dau.* of Wm. Talbot, Co. Wexford, and left surviving issue, one son, George Leopold, and one *dau.*—Angusta-Margaret-Gwendoline, *m.*, 7th February, 1853, Edward Joseph, 2nd Lord Bellew, by whom she had issue two sons, the 2nd of whom, the Hon. George Leopold, succeeded to Jenkinstown on the death of his uncle, in 1880. George Leopold Bryan, *b.* 29th November, 1828, was High Sheriff of the County of Kilkenny in 1852, for which he was a J.P. and D.L. He represented the county in Parliament from 1865 till 1880, when he retired at the general election, and died three months later, 29th June, 1880. He *m.*, 6th December, 1849, Lady Elizabeth Georgiana, youngest *dau.* of Francis Nathaniel, 2nd Marquis Conyngham, K.P., and by her (who re-married, 16th February, 1882, George James, 11th Earl of Winchelsea and Nottingham), had a *dau.* Mary, who *d.* 19th November, 1872.

Mr. Bryan was succeeded in his estate by his nephew, Hon. George Leopold Bellew, who assumed the name of BRYAN in lieu of *Bellew*, by royal licence, and is now Hon. GEORGE LEOPOLD BRYAN, of Jenkinstown, J.P., D.L., captain 10th Hussars.]

(See *Genealogical Memoirs of the Members of Parliament for the County and City of Kilkenny*, &c., by G. D. Burtchaell, M.A., LL.B., M.R.I.A., Dub. 1888; also, *IRISH BUILDER*—History of St. Andoen's for 15th November, 1887.)

The principal front, which is in Anne-street, is of mountain granite, built in the Gothic style, with pointed arched windows, minarets, &c. It consists of two storeys, the lower occupied by three pointed door-ways; that in the centre leading to the great aisle, or nave; those on each side to a spacious gallery. The second storey is ornamented with three large pointed windows, and the summit rises to a very acute angle, terminated by a cross, and finished with a monastic battlement and pinnacles.

The interior is richly decorated with stucco and sculpture. At the east end are three altars, placed in deep recesses, and ornamented with heavy carved work, in the pointed style. Over the centre altar is a full-length figure of our Saviour, in alto-relievo, beneath



NEW MUNICIPAL OFFICES, BOMBAY—GROTESQUES ON PRINCIPAL STAIRCASE.

HARRY HEMS, Sculptor.

THE LIBRARY
OF THE
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a pointed canopy, above which, on the ceiling, is a glory, encompassed by innumerable heads of cherubim. The altar on the right is ornamented by a beautiful painting of St. Francis, copied from Guido, and the altarpiece on the left represents the Virgin and Child. In one of the ornamented niches over the side altar, a small organ is placed, and in the corresponding niche there is a false front.

The ceiling, which is semi-elliptical, consists of groined arches springing from heads of saints, placed in the piers between the windows, on each side; and three lustres are suspended from richly-worked pendants, which drop from the intersections of the arches. The aisle is lighted by five pointed windows on each side, decorated with labels springing from heads of saints; and the half of each window is ornamented with stained glass. The stucco and carving work were executed by O'Brien, a Dublin artist; and the building is after a design by Messrs. O'Brien and Gorman.

An Antique Statue of the Virgin and Child.

On the opening of this new chapel in Anne-street, the venerable old building in Mary's-lane, no longer fit for use, was converted into a parish school. In this old chapel it is supposed was preserved a statue of the Virgin and Child, which formerly belonged to St. Mary's Abbey, and which is still preserved in the Carmelite Church, Whitefriar-street.

The late Dr. George Petrie, M.R.I.A., in a series of articles on the "Past and Present State of the Fine Arts in Ireland," which he contributed to the *Dublin Penny Journal*, after reviewing the art of sculpture in the fifteenth century, gives the following description of this ancient relic:—

"We have still in existence a very interesting example of the sculpture of this age—a statue of the Virgin and Child, the size of life, carved in Irish oak: it is preserved in the new church of the Carmelites, in Whitefriar-street. The style of this curious monument is dry and Gothic—yet it has considerable merit, far too much, indeed, to allow us to suppose it a work of Irish art. We rather attribute it to some able carver of Albert Dürer's school, to whose time and style it unquestionably belongs, and we should not deem it very unlikely even to be an early work of that great master's own hand.

"There are some circumstances relative to the preservation of this statue, preserved by tradition, which have not hitherto appeared in print, and which may probably interest the reader. It was originally the distinguished ornament of St. Mary's Abbey, at the north side of Dublin, where it was not less an object of religious veneration, than of wonder and admiration for its beauty. Its glory, however, was but of short duration. The storm of the Reformation came—the noble religious structure to which it appertained was given to the Earl of Ormonde for stables for his train, and the statue was condemned, and, as it was supposed, consigned to the flames. One half of it was actually burnt—but it was the moiety which to a saint is perhaps not absolutely indispensable, and which, at least when placed in a niche, is not much missed: the other half was carried by some devout or friendly hand to a neighbouring inn-yard, where, with the face buried in the ground, and the hollow trunk appearing uppermost, it was appropriated, for concealment and safety, to the ignoble

purpose of a hog-trough! In this situation it remained till the tempest had subsided, and the 'noble rage' of the Iconoclasts had passed away, when it was restored to its original uses in the humble chapel of St. Mary's parish, which had grown up from the ruins of the great monastery to which the statue had originally belonged. But in the long night of its slumber in obscurity, a great change had taken place in the times, more dangerous to its safety than even the abhorrence of its iconoclastic enemies:—no longer an object of fervent adoration to the pious devotee, or of admiration to any except the curious antiquary, it was considered of little value by its owners. Within the last few years—the ancient silver crown with which it was adorned, was taken from the Virgin's head, and sold for its mere intrinsic value as old plate, to Mr. Mooney, of Capel-street (a silver-smith), and melted down;* and the statue itself would most probably have followed the fate of its coronet, had it not been rescued and secured for a trifling sum by the worthy prior [Very Rev. John Spratt, D.D.] of the convent in which it is now deposited."

The following inscription, engraved on a brass-plate of very narrow dimensions attached to face of the plinth on which the statue stands on the side altar (at the Epistle side of the high altar) in the Carmelite Church, Whitefriar-street:—

"This Ancient Image of the Blessed Virgin, with the Infant Jesus in her arms, formerly stood in the Abbey Church of St. Mary, near Capel-street, Dublin. It had the good fortune to escape the rage of the sacrilegious Iconoclasts of the fifteenth century, and was preserved by our pious ancestors in the old parish Chapel of St. Michan's, Mary's-lane, where it remained for some years after the reverend gentlemen removed to their new place of worship, North-Anne-street. It was mutilated and in a decayed state when purchased, in the year 1824, by the Rev. JOHN SPRATT, Prior of the Calced Carmelite Convent, Dublin, at whose expense it underwent a thorough repair."

(To be continued.)

THE BURNING OF THE SOUTH CITY MARKETS.

On the morning of Saturday last, the 27th ult., the greater portion of the South City Markets, Gt. George's-street, was destroyed by fire. We learn that the bulk of the property was well insured—the amount being put down at £72,000. It is probable that operations for its reconstruction will shortly be commenced. For the present, temporary stalls, &c., are being erected on the site, and also upon ground in the neighbourhood. We find, on reference to our volume for 1881, that the opening took place in November of that year, when we recorded the fact in the following words:—"The ceremony of 'opening' the new market building in South Great George's-street, took place on Wednesday last, and was performed by the Lord Mayor, the Right Hon. George Moyers, LL.D. His lordship, attended by the civic

* "This crown is very generally supposed to have been the identical one used at the coronation of Lambert Simnel, in Dublin, but, as we incline to think, erroneously. Sir James Ware says that the crown used on the occasion was supposed to have been taken from the statue of the Virgin, in the church of the Abbey of St. Mary-les-Dames which stood at the eastern gate of the city, where Dame-treet joins Cork-hill. The crown itself we have often seen exposed for sale in the window of the jeweller to whom it was sold. It was a double-arched crown, such as appears on the coins of Henry the Seventh, and on his only—a circumstance which marked, with exact precision, the age of the statue which it had adorned."

officers, arrived at 3 o'clock, and having made a tour through the central hall, declared the market open to the public. A *dejeuner* followed, after which speeches were made and toasts proposed. The cost of the site is put down at £65,000, and the outlay on building about the same amount. The chairman (Mr. Joseph T. Pim) stated that from the lettings already made, they are in receipt of £6,000 a-year; when all the lettings were made, they estimated an income of between £10,000 and £11,000 a-year."

SCULPTURE FOR BOMBAY NEW MUNICIPAL BUILDINGS.

THE two pieces of sculpture which we illustrate in present issue, have been photographed from photographs taken in the artist's studio at Exeter. They have been forwarded to their destination, and complete the order entrusted to Mr. Hems by the architect, Mr. F. W. Stevens. They are to occupy positions on pedestals at each side of the grand staircase, and will form striking objects in the fine new building at Bombay. In the view at left side of illustration, H. H. may be observed, handling his chisel and mallet, giving the finishing touches to a colossal lion. Our prints have been executed by Mr. Joseph Lewis of this city, and they are fair samples of his work.

IMPROVED LIGHTHOUSE ILLUMINANTS.

ON Monday last, a number of gentlemen visited Howth Baily Lighthouse, for the purpose of inspecting Mr. John R. Wigham's late improvements in lighthouse illumination. They consist of a new gas-burner and a new arrangement of lenticular apparatus, specially constructed to utilise the light emanating from the larger forms of his gas-burners, which have been for many years employed in the principal lighthouses on the Irish coast. By means of the burner (which Mr. Wigham has named the "Intensity"), the power of his great gas-light is doubled by an improved method of applying the vapour of naphthaline to ordinary gas. This method also possesses the advantage that, while the power of the light and consequently its efficiency are doubled, the cost is actually reduced. The lens through which this "Intensity" burner shines is 7 ft. 6 in. high, by 10 ft. wide, and is of spherical construction, which enables it internally to return to the flame the whole of the light reflected at the first refracting surface, so as to increase the amount of light emitted directly from the flame towards an opposite panel, which light, in the case of the ordinary plane lens, is wholly lost. As much discredit has been given to electric light as a lighthouse illuminant, by the fact that in America its use has been wholly discontinued because of the adverse criticisms upon it of shipmasters and other competent authorities, and that in France, where a number of lighthouses have been lighted by its means, its further application has been arrested because of its very unsatisfactory behaviour in fog. It is to be hoped that before this "Giant" lens is removed from Howth Baily, some steps may be taken to compare the light of the "Intensity" burner transmitted through the "Giant" lens with the most powerful form of electric light yet devised for lighthouses. It is said that the French lighthouse authorities are making experiments with a burner which Mr. Wigham has devised.

THE BRISTOL AND GLOUCESTERSHIRE AND THE WILTS ARCHÆOLOGICAL SOCIETIES have been holding a joint meeting at Cirencester, under the presidency of Sir John Dorington, M.P. The Rev. W. Bazeley, hon. sec. of the Bristol and Gloucestershire Society, has been presented with a handsome bowl of very ancient date, for his services.

CORRESPONDENCE.

THE LIBERAL PARTY AND AGRICULTURE.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In the newly-constituted parliament, the questions which must be faced, next to Home Rule, are: How can agriculture be revived, depopulated rural districts restored, and overcrowding of cities prevented? This can be accomplished by the repeal of the existing feudal land-laws, which, since the passing of the Corn Laws, have been the means of bringing agriculture to its present state of depression, seeing that it was not accompanied with free trade in land and its covenants, as in justice to the tenant farmers of the country it ought to have been at the time.

When the land-laws were constituted, they were intended for the protection of the tenant as well as of the landlord; and in bad seasons the farmer participated in them, by getting an enhanced value for his produce, sufficient to cover his loss and leave him a working profit; indeed, in those days the farmer was frequently best compensated in a bad year, through the high prices obtained thereby. Now, with no security, the farmer that farms highest runs the greatest risk of loss in bad seasons, and, therefore, the land is starved of both capital and labour, and will be so, as long as these feudal laws remain. The landlord also, through such protection, was enabled to find tenants with sufficient capital, as they had a Government security for sinking it in land—that did not belong to them—for the purpose of raising food for the wants of the nation, therefore answering the purpose for which they were created; but, through the subsequent passing of the Corn Laws, they became unjust, towards the farmer, by still allowing the landlord to let his land on lease at a fixed rent, and when in arrear, to exact that rent under sequestration; and if unable to realise it thereby, proceed further to evict, with confiscation of tenants' improvements. Besides, he could insert into the lease privileges and restrictions, not only injurious to the tenant, but to the common good, which, if infringed on at any time during the currency of the lease, could be made penal. The landlord has also power, even though his land is frequently let above its real value, to exact that rent out of the capital of his tenant, and so the interest of the tenant farmers of this country have been sacrificed to feudal land-laws, as they are still obliged to pursue their calling under them, which accounts for the rural population being driven off the land into towns, and the consequent overcrowding of them with lapsed masses.

When the operations of high farming are resorted to for the purpose of competing with free trade, these laws give the landlord the power of appropriating the increased value arising from such farming to his own profit; also to raise the rent on a tenant's improvement at the end of his lease, and, if not complied with, confiscate them by letting the farm to another party, who gets the benefit to start with, and is thereby enabled to pay a higher rent for a time; consequently, agrarian crimes have been encouraged thereby, and great suffering has been the lot of many of the best of men possessing large capital and skill in their profession—men who have been benefiting their country at a sacrifice to themselves; all this might have been prevented, and depopulation of rural

districts never heard of, but for the destruction resulting to their interests through the operation of these laws, when confronted with free trade in grain.

This being the real cause of the continued agricultural distress, not until an act of Parliament is passed, abrogating all feudal laws, and securing capital and labour employed in the cultivation of the soil, will the results be removed. At present, capital is repelled from, instead of being attracted to, the land. This law, therefore, should be taken away from the landlord who holds the land under monopoly—abusing the privilege—and granted in favour of the cultivator instead. The landlord is not bound to lease his land, and therefore could have protection from such an act, if he felt aggrieved by it, through farming it himself.

As the land-laws at present stand, they are therefore all against the farmer, and land is consequently going out of cultivation. When they are made just, landlordism itself will be benefited by the change, and flourish again, for, by the application of sufficient capital and labour, which could then be safely applied, it will be able to maintain all depending upon it in comfort. Production, also, could thereby be greatly increased, and result in national benefit. Statistics shew that upwards of sixty-seven millions of money are annually spent in agricultural labour. This is greatly in excess of any other industries of the country, and yet not one of them is encumbered in a similar manner, by any act of Parliament. Seeing that the agriculture of the country has survived such a heavy burden for forty-six years, what may be expected when it is relieved from it?

Now, that the present members of the House of Commons are indebted to those depending on agriculture for their position, it is expected that they will take the earliest opportunity of legislating for its freedom, so that it may be able to compete satisfactorily with free trade, which it only can do, when the land-laws of the country are framed to give security to the husbandman.—Yours, &c.,

CHARLES RINTOUL.

Buxted, 24th August, 1892.

[In giving place to above letter from our valued correspondent,—who is undoubtedly very competent to write on agriculture and kindred topics,—it must be understood that we hold views of our own upon the matters to which he has drawn attention, but which cannot be ventilated in a non-political journal such as ours is.—ED. I. B.]

THE ANCIENT RECORDS OF CARRICKFERGUS.*

It had been well remarked, said the author, that the citadel of Carrickfergus, the principal fortress of ancient Ulster, did not yield in historic interest to any castle in Ireland. Passing by its mythical origin and the subsequent fierce conflicts of the Dalriadans and the Northmen for its possession, it must be remembered that it was alike occupied by King John and the Barons of Runnymede, and by King Robert the Bruce and the Heroes of Bannockburn. Besieged by Schomberg, it was a little later the landing-place of his master, King William. Surrendered to the French in 1760, after a gallant defence, it witnessed, eighteen years afterwards, the capture of a British man-of-war by Paul Jones. At what date the town was incorporated was unknown, but it was probably in King John's reign, as it was a borough in 1260, when certain moneys

provided for the entertainment of the Viceroy were rapaid by a Burgess called Adam—perhaps, a local Isaac of York. King Edward I. directed letters to the Mayor in 1275 respecting the rebellion of the Mandevilles. It was mentioned as a county with a sheriff in 1325. The Down Survey called it a county palatine. Mr. Skinner stated in his justly-esteemed History of Carrickfergus, on the authority of the original records, that the ancient rent paid to the Crown by the corporation was “the rysinge of one mann, with a bow without a string, and an arrow without a feather.” Its charter with this clause was taken from the corporation by Sir Henry Sidney, and a new one granted by Elizabeth, in which “her Highness, in lieu of the former charter, the walling of the towne, buylding of the peare, and allots such auncient lands as by former charter were held and enjoyed.” This charter was supplemented by three charters granted by her successor, King James I. The first, dated July 7th, 1610, conveyed merely the land or territory to the Mayor, with exceptions, and defined the rent to be paid. The second, dated December 14th, 1613, conveyed the county of the town, with sheriffs, equivalent to other counties. The third, given in the twentieth year of James's reign in England, and fifty-fifth in Scotland, constituted the merchants into a guild, the better to promote trade, and especially woollen merchandise, and enabled them to trade with Irish ports and some English. It specified the dues to be collected by the mayor, sheriffs, and the society of merchants, or guild of mart of the town of Carrickfergus. These interesting old documents were still carefully kept in the custody of Mr. David Boyd, the worthy town clerk of Carrickfergus, whose unfailing kindness he (Mr. Young) desired to acknowledge. The charters just mentioned were well deserving of inspection, although that of James, dated July, 1610, was the only one remarkable from an art point of view. The upper portion of this parchment was illuminated with grotesque ornaments of the period. The seals were still appendant, but, with the exception of Elizabeth's, they were in poor condition. The old oak chest referred to in the following entry had disappeared:—“Mem. When King William's army under General Schomberg invested this town, being possessed by the Irish, the 20th of August, 1689, I was upon the first appearance of the army committed a prisoner in the vault next to the main guard, and next day was committed to the common gaole, into which I had this book and the town chest, wherein all the records, deeds, and charters of the town were brought into the gaole, where they remained till the town was delivered the 27th, and the English entered next day. I delivered the sword which was held by my sergeant to General Schomberg in the Market Place, who was pleased to restore it unto me, and I continued until the 29th of September, 1690. Richard Dobbs, Mayor.” It was evident from the following entry the chest was in existence in 1603; “In the Assembly holden on the . . . day of . . . 1603, it was ordered and agreed by the Mayor, burgesses, and commonalty, by their whole assent and consent, for the safer and better keeping of the town's charters, and all the records whatsoever, that from henceforth there shall be a sufficient chest, furnished with three or four locks, with fitting keys, in the custody of these—viz., the chest to be in the Mayor's house for the time being, and one key with the Mr. of Merchants, another with the treasurer, the other in the keeping of those that shall be appointed for the commoners. Provided always that the said chest shall never be carried out of the liberties of this town.” The remarkable corporate seals would be ably described by Mr. John Vinycomb; the silver-gilt mace and the sword, presented to the town in 1712 by Robert Gardiner, then of London, were also noteworthy as works of art; they both bore inscriptions. Unfortunately, the original records of the town, cited by Mr. Skinner, and comprising the early minute-books, had been lost. In the report

* From paper by Mr. R. M. Young, C.E. Read at Belfast meeting of the Royal Society of Antiquaries of Ireland.

of the Irish Municipal Reform Commissioners 1835, it was stated that they had been lent—presumably to the historian of Carrickfergus—and never returned. At the instance of Dean Dobbs, about 1887, most of their contents had been copied into a volume, from which the following necessarily brief extracts, chosen more for their quaintness than historical interest, were taken for the first time:—At a court held in the Parish Church of St. Nicholas, in the presence of Thomas Stevenson, mayor for the time being of the town, and John Todd and Nicholas Wilde, sheriffs of the town, on the first day of June, A.D. 1569, it was ordered “by the maior and sheriffs, with the whole consent of the aldermen, burgesses, and commonalty, that all tiplers in this town which have license to sell ale or beer or bread shall have free liberty to do so, provided always that every of the said tiplers shall find in every of their houses two beds for the lodging of strangers or any such as shall be appointed by Mr. Maior or sheriffs to be lodged, and that every of them shall erect a stable sufficient for the stabling of four horses, and that they shall pay any such fine as the maior shall appoint for their tipling, and, lastly, that they shall pay skott and lott.” In 1574 it was ordered that “whosoever of this town shall within the court speak disorderly and make a noise that, being once warned, if he again do make a noise, or be talking again, shall pay ten groatts sterling.” Under date 21st July, 1657, appeared the following:—“Mr. . . . for his unreverent and uncomely speeches used to the Maior in open court—viz., “I will teach you, sir, hereafter. You never saved the credit of this town, but you have lost it much. Do your worst to me, and I will do my worst to you.” And upon being commanded by the Maior upon utterance of these speeches to go with the sheriffs from the bench, he said he would not go. And, further, he said, “Thou hast pinched my purse already; you shall never pinch it again, and if I live I shall be even with you.”

THE INSTITUTION OF CIVIL ENGINEERS (LONDON).

THE following is a detailed list of the awards made for original communications submitted during the past session:—

For Papers Read and Discussed at the Ordinary Meetings.—A George Stephenson Medal and a Telford Premium to Alexander Richardson Binnie, for “On Mean or Average Annual Rainfall, and the Fluctuations to which it is subject.” A Telford Medal and a Telford Premium to Alexander Pelham Trotter, B.A., for “The Distribution and Measurement of Illumination.” A Telford Medal and a Telford Premium to William Tregarthen Douglass, for “The Bishop Rock Lighthouses.” A Telford Premium to Herman Alfred Roehling, for “The Sewage-Farms of Berlin.” A Telford Premium to Alfred Harper Curtis, for “Gold Quartz Reduction.” A Telford Premium to Wilfrid Airy, for “On Weighing Machines.” A Telford Premium to Henry Gill, for “The Sale of Water by Meter in Berlin.” A Telford Premium to Professor William Chandler, for “On the Measurement of High Temperatures.”

For Papers Printed in the Proceedings without being Discussed.—A Telford Medal and a Telford Premium to Francis Fox, for “The Hawarden Bridge.” A Telford Medal and a Telford Premium to Alfred Weeks Szlumper, for “Widening and Improvement Works, London and South-Western Railway, Metropolitan Extension.” A Telford Premium to Charles Preller Sheibner, for “The Florence and Fiesole Electric Railway.” A Telford Premium to Professor Thomas Hudson Beare, for “The Building Stones of Great Britain; their Crushing Strengths and other Properties.” A Telford Premium to Professor William Cawthorne Unwin, for “The Transmission and Distribution of Power from Central Station by Compressed Air.” A Telford Premium to Edmund

Penny, for “The Nagpúr Waterworks Extension.” A Telford Premium to Allan Duncan Stewart, for “Stresses and Deflections in Braced Girders.” A Telford Premium to Robert Henry Burnside Downes, for “Practical Astronomy as Applied to Land Surveying.” A Telford Premium to William Matthews, for “The Southampton Waterworks.”

For Papers Read at the Supplemental Meetings of Students.—The Miller Scholarship to Herbert Byrom Ransom, for “Fly Wheels and Governors.” A Miller Prize to Charles Henry Wordingham, for “Meters for Recording the Consumption of Electrical Energy.” A Miller Prize to Edmund Lewin Hill, for “The Speed and Power of Locomotives.” A Miller Prize to David Carnegie, for “The Manufacture of Forged Steel Projectiles.” A Miller Prize to George Harrison Sheffield, for “The Construction and Relative Efficiency of Locomotive Boilers.” A Miller Prize to James Benjamin Ball, for “The Works and Plant used in the Manufacture of Oil Gas at the Holloway Works of the Great Northern Railway.” A Miller Prize to Richard John Duxley, for “On some Forms of Petroleum Engines.”

HISTORIC MEMORIALS OF LEIX.

(Continued from page 181.)

In pre-historic times, nearly the whole surface of Leix was covered with woods and forests; but of these, few traces now remain, except in the demesnes and pleasure-grounds of a few large proprietors. Some considerable tracts at Ballykillcavan, near Stradbally, and in the demesnes of Lord De Vesci, near Abbeyleix, of Lord Portlington, Emo Park, and of Sir Charles Coote, Ballyfin, are yet covered with a natural growth of trees, sprung from the primeval forests, and never artificially planted.

Down to the middle of the sixteenth century, the woods were dense in most districts of the country; and, in the seventeenth century, many of these were deforested, while in the beginning of the eighteenth century, leases were granted on many properties, it being stipulated, that the tenants should cut, burn, or destroy so many acres of wood, to clear their lands for the plough. Oak was the natural growth of the mountains and uplands; firs and alders studded the bogs and marshes; in the most barren and rocky spots heaths and briars grew in abundance; yet nearly every species of tree known in these temperate regions seems to have been indigenous, as roots and trunks of all descriptions have been found.

Towards the close of the last century, several of the local gentry resolved on making amends for the bare appearance of various sites only valuable for planting; but still, large ranges of landscape are unfurnished with the shelter and ornament of trees, although most of the fields are surrounded by excellent ditches and hedge-rows, the latter usually composed of hawthorn, clothed with white blossoms in the month of May, and shedding a delicious fragrance.

In 1841, it has been ascertained, that in the Queen's County there were 1,413 acres of continuous woods, and 11,488 detached trees of oak; 95 acres and 121,959 detached trees of ash; 2 acres and 21,323 detached trees of elm; 40 acres and 33,030 detached trees of beech; 1,536 acres and 46,690 detached trees of fir. Beside those of mixed plantations, there were 8,123 acres and 134,663 detached trees, together with 421 acres and 3,862 detached trees of orchards. In all, there were 11,630 acres of continuous woods and 373,015 detached trees, equivalent to 2,331 acres. The foregoing summary makes a total of planted timber comprising 13,961. Of later years, no return has been procured; but, it is safe to state, the quantity of timber now remaining has considerably diminished, while numbers of forest trees, and even whole plantations, have been cut down; nor have these been replaced by copse-wood.

NOTES ON THE OLD MAYOR'S SEAL OF CARRICKFERGUS.*

CARRICKFERGUS was fortunate in possessing three brass seals, two of them of very ancient date, and the third—which was the seal of the port and customs of Carrickfergus—dated 1605, and bearing upon a shield the initials I.R., and three harps of the Brian Boru pattern. The large seal of the town, of 2½ inches diameter, with the castle in the centre, and the legend, “Sigillum comone de Cragfergi” round the margin, was well known; but the other seal, with the spread eagle in the centre, had always been a puzzle to antiquarians. Mr. Daniel Bowman, chairman of the Municipal Commissioners of Carrickfergus, had, at his suggestion, very kindly brought with him to the meeting for the inspection of the members the veritable seals of the historic borough of which he was the worthy representative. He (Mr. Vinycomb) also submitted wax impressions, which the late Mr. T. Digby Johns some years ago allowed him to take. He trusted Mr. Bowman would forgive him, for no doubt he would be surprised at his statements, which, while they might lend a new interest to one of the oldest seals belonging to the period of the Norman settlement in Ulster, showed conclusively, he believed, that his predecessors in office, the old Mayors of Carrickfergus, for centuries past, had used for official purposes a seal to which they had no right whatever. With regard to the very ancient seal referred to, with the eagle displayed in the centre, the difficulty had always been in deciphering the inscription it bore, composed of contractions of Latin words in rude Lombardic characters, and in accounting for the presence of the eagle. A communication which he received some years ago from the late Rev. Canon Hayman, of Douglas, County Cork, made the whole thing very clear. He said—“The impression of seal with which you favoured me clears up what was long a mystery to me. I saw at a glance the legend and device, unintelligible in the reduced cut given in ‘Lewis's Topographical Dictionary.’ Although used for a municipal seal in Ireland, it is really Italian, being the official seal of the Chamberlain of Aquila, Brother Bernard of the Great Franciscan Order. I suppose I need hardly remind you that for centuries ecclesiastics, being the only *literati*, filled the highest offices, such as are now given to laymen. They were Lord Chancellors, chief justices, chamberlains and castellans.” There was an Archdeacon of Down, A.D. 1183, named Bernard, and with his age this seal was synchronous. Might it not be that, brought from his Italian home for reasons they could not now discover (probably in the suite of some bishop), and given preferment in the Irish Church, he fixed his residence at Carrickfergus? As his Italian seal of office was of no use to him, he might have used it at first in archidiaconal documents, and then given it to the Corporation, who had no seal of their own. The legend of the seal might be translated:—“The seal of Brother Bernard, Chamberlain of the city of Aquila.” Aquila was the chief city of the classical Aquila, now the Abruzzo, in the Neapolitan region of Italy, if it bore yet the name, and the spread eagle—Aquila—was the heraldic emblem appropriately. It did seem exceedingly strange that that old brass Italian seal should have been used for municipal purposes by the ancient historic borough of Carrickfergus, probably from the date of the Norman Settlement in Ulster, when De Courcy held sway in the North; and equally strange that at this late day it should only be discovered by a careful interpretation of the legend and its appropriate device that it was not properly the seal of the town at all, though it appeared to have been used as such for well-nigh seven centuries. The brass matrices of the seals were in the possession of the Town Commissioners of Carrickfergus.

* Abstract of paper by Mr. John Vinycomb. Read at recent Meeting of the Royal Society of Antiquaries of Ireland.

THE SESSIONS COURT AGAIN.

A SPECIAL meeting of the Chamber of Commerce was held on Monday last, to consider "whether it would be to the advantage of the mercantile community to have the business at present transacted in the Green-street Court-house removed to the Four Courts."

Mr. MICHAEL MURPHY, J.P., presided.

Mr. Frederick Pim said, in the unavoidable absence of their hon. secretary, Mr. Wigham, he had been requested to discharge the duties. This matter had been brought before the council by a communication from the Incorporated Law Society of Ireland, who sent them a copy of a resolution adopted by the joint conference of the committee of the Council of the Incorporated Law Society and the Bar Committee, on the 17th May, 1892. It was as follows:—"That the removal of the Court-house from Green-street to the Four Courts is most desirable in the interests of the public, and that a joint deputation, consisting of members of the Bar, Chamber of Commerce, Jurors' Association, and the Council of the Law Society, do wait on the Lord Lieutenant to urge this change to be carried out, and that the Chamber of Commerce and the Jurors' Association be asked to join in the deputation." The communication was signed by Mr. Maherley. Some discussion took place on the subject at the council meeting, but the general opinion appeared to be that they should know the minds of the members of the Chamber on the question. On the 1st of July a further communication was addressed to Mr. Wigham by the Incorporated Law Society. It was signed by Mr. Maherley, and it stated:—"As the question of settling where the business hitherto carried on at Green-street is to be in future carried on, appears to be before the Government now, the council will take a poll of the solicitors of the city and the county of Dublin as to their individual wishes between Green-street and the Four Courts, and the council suggest that the Council of the Chamber of Commerce should take a similar poll amongst the members of the Chamber of Commerce to secure a consensus of opinion on the subject." That proposal was considered by the members of the Chamber, and they decided that the best way to take the poll was to call together this meeting, especially as there was a meeting for the election of new members. Mr. Wigham wrote, enclosing a plan costing £13,500, by which Green-street could be made a practically new court-house, and would contain a new civil and criminal court-house, and have perfect sanitary arrangements and ventilation.

A letter from the Recorder was read by Mr. Pim, in which he said—"I have lately urged, and I had thought with success, the thorough and radical improvement of the existing court, and had laid before the Government a preliminary plan by which this can be effected for £12,000 to £15,000. The whole neighbourhood would thus be improved, whilst the removal would entail further depletion on a district already poor. The renovation of the Ormond Market will bring a rapid and a cleanly mode of access to and from the Four Courts of about four minutes."

Mr. Pim thought that the best thing to do was to leave the whole matter in the hands of the members of the Chamber. He had an opinion which was not exactly in accordance with that expressed by the Recorder, and he would make it known later on. He wished now to hear what the members had to say. It was a small practical point, and really amounted to this, as to whether it was desirable in the public interests that the present court-house should be re-built, or whether it would be better to have the whole business concentrated in the close neighbourhood of the Four Courts.

Mr. Begg said he thought that the present court-house in Green-street should be either re-built or renovated. The great complaint made

was as regarded the impurity of the air, and of course that could not be removed until the internal sewerage was remedied. A stream ran down Halston-street into the Liffey, and the sewage could by this means be conveyed away, and the court-house made perfectly wholesome. If necessary it could be rebuilt, but he thought it would be a pity to remove it.

Mr. Nolan said he had served as a juror in Green-street for several years, and during all that time he had never once felt a bad smell in it. He was entirely against removing to the Four Courts, believing as he did that the public should be inconvenienced rather than lawyers. He regarded the building in Green-street as a very lasting and very substantial one, though of course it might require improved ventilation and improved sewerage arrangements.

Mr. Brown, T.C., said complaints had come from every source as to the present condition of Green-street Court-house. They all knew the class of approaches there were to the court. The court had been condemned time after time until their present Lord Chief Justice took the matter in his hands and went down to the Four Courts. Some time ago, as they were all aware, an arrangement was almost completed for the building of a new court-house, whereby the Government would pay one-third of the cost, and the citizens the remainder. It had been proposed by some that a radical change should take place, and that the Government should have their own court-house, and that the citizens should have their sessions-house. He begged to propose:—"That a citizens' committee be selected by this meeting, to confer with the council and other authorities engaged in the matter, judicial and lay, who would represent the various interests both of the citizens and the Government, so as to give immediate effect to the change of the present site of the sessions-house in Green-street to a more convenient part of the city."

Mr. Joseph Begg proposed:—"That the removal of the business of the Green-street Court to the Four Courts would be an inconvenience, and that the Court-house in Green-street simply requires internal sewerage to be set right and to make it perfectly wholesome; nevertheless, if rebuilding is necessary it should be on the present site."

Mr. Pim said the object of the meeting was to select between two sites. One proposal was in favour of rebuilding the Court-house in Green-street, and another was for removing the business to the Four Courts. He believed in the concentration of everything as near a central point as possible.

Mr. William Findlator, solicitor, said it was absurd to say that the present position of the court-house in Green-street was convenient. As to the employment of counsel, he could say that it was only in complicated cases they were engaged. Only a small percentage of the Green-street cases required counsel. The views of the Recorder on this matter did not bear examination.

The motions of Mr. Brown and Mr. Begg were put to the meeting and rejected, and

Mr. F. Pim said he would propose as a substantive resolution that the business now conducted in Green-street should be removed to the neighbourhood of the Four Courts.

Mr. James Crozier seconded the motion, which was passed without a division.

BOOKS, &c., RECEIVED.

The Law relating to Building Societies, with Appendices containing the Statutes, Treasury Regulations, Act of Sederunt, and Precedents of Rules and Assurances. By Edward Albert Wurtzburg. Second Edition. London: Stevens and Co., 1892.

The Electric Light Popularly Explained. By A. Bromley Holmes, M. Inst. C.E. Sixth Edition. London: Bemrose and Sons, 1892.

The London Sewage Question. By Crawford Barlow, B.A., M.I.C.E. Edinburgh: 1892.

MISCELLANEOUS.

THE BATH STONE FIRMS (LIMITED).—The directors of above company have declared an interim dividend for the half-year ending 30th June last, at the rate of 6½ per cent. per annum, carrying forward £306 15s. 3d., as against £151 1s. 7d. carried forward last August, when the same interim dividend was declared.

THE RHYL EISTEDDFOB will take place simultaneously with the Gloucester Festival, the contests starting on the 6th inst. One of the competitions, limited to tenors, will have as its first prize a year's free musical tuition, under Dr. Joseph Parry, at the University College, Cardiff. The idea is one which might usefully be extended. Dr. J. Parry himself may be described as a child of the Eisteddfod, for he was a working puddler at an iron foundry when he carried off prizes at the Llandudno and Swansea Eisteddfodau, and showed such high promise that the late Brinley Richards organised a subscription to enable him to study under Sterndale Bennett, Garcia, and Steggall, at the Royal Academy of Music.

A NOTE FROM SYDNEY.—A correspondent writes, under date of July 2:—"Sydney looks very much the same as usual, and the depression from which all the leading towns of the colonies are suffering does not make itself apparent to the visitor. Men who have their occupations in Sydney say that business has never been so dull as it is at present; all branches seem to suffer equally in the business of middle classes. The working men, however, feel the lack of employment more than any other class, the money that they earned during the good times being largely swallowed in paying agitators' salaries and promoting strikes. Many of our artisans are without the necessities of life, and are subsisting on charity, all the benevolent institutions of the colony being taxed to the utmost to keep the poor fellows from actual starvation. I do not think that the stock market was ever in such bad condition as at present. Sheep have fallen to a price when, if it were not for the wool, it would hardly pay to breed them; the only men who make any money out of the marketable fat sheep being the butchers who buy at the prevailing low prices, but do not lower the price of meat to the consumer. There can be no doubt that there are far too many sheep in this colony. We have at present some sixty-two millions. The result is that the markets, both in wool and fat sheep, is greatly oversupplied, and prices of fat sheep will probably fall lower unless we can find a means of exporting in large quantities."

MACHINERY AT THE FLEET-STREET ELECTRIC LIGHTING STATION.—The engine-house is decidedly the most imposing part of the station. In it are erected the three sets of the two kinds of plant—viz., the Lowrie-Hall high-tension alternating current system for supplying electricity to consumers' houses, and a continuous current Brush system for lighting the streets by means of arc lamps. For the private lighting there are three pairs of compound horizontal non-condensing engines of 20-horse power each, working at a pressure of 140lbs per square inch on the valve boxes, and running at a speed of 85 revolutions per minute. The fly-wheels, weighing nearly ten tons each, are 14 ft. in diameter, and are grooved for twelve cotton ropes running direct to the dynamos. The engines were specially built by Messrs. Victor Coates and Co., of the Lagan Foundry, Belfast. Coupled direct by cotton ropes to the engines are the patent Lowrie-Hall alternating current dynamos, each giving an output of 75 amperes at 2,000 volts, or, in other words, each machine is capable of supplying current to 5,600 lamps of 8-candle power, or feeding on to a circuit wired for about 10,000 lamps. They are magnificent examples of dynamo machinery construction. Their speed is 350 revolutions per minute. The mean speed at which the armature conductor is passed by the field magnets is about 6,000 ft. per minute, and the number of alternations 10,000, or 5,000 complete phases per minute. The armature is stationary, with iron core of large section composed of the very best charcoal iron sheets, arranged longitudinally, and in the same plane with the magnetic field, clamped to the frame of the machine, and thoroughly insulated. Fixed to the dynamo is a pulley of suitable diameter for driving the "exciter," turned with grooves for four ¾-inch ropes. This "exciter" is a series-wound machine, with drum armature, and with a speed of 800 revolutions per minute. The "commutator" is of ample size and entirely free from sparking, and is provided with two sets of brushes and holders, each set of brushes being ample for collecting the maximum current. Contact is kept by adjustable springs, and each brush is separately provided with a safe and easy

means, when necessary, of lifting and keeping it away from the "commutator" while the machine is in motion. The approximate weight of dynamo, rails, and "exciter" is 12 tons. At the opposite end of the room are situated the three sets of arc-lighting plant, comprising three vertical compound engines and three continuous current Brush dynamos. These engines are of 60-horse power, and run at a speed of 220 revolutions per minute. There are high and low pressure cylinders, the latter being fitted with automatic relief valves. The fly-wheels are 8 feet in diameter and grooved for 8 cotton ropes, thus coupling the engines direct with the dynamos. These are of the Brush make, giving an output of 10 amperes at 3,000 volts. The speed of the dynamos is 800 revolutions per minute, and each machine is fitted on sliding rails for tightening the ropes. The armatures are of laminated iron, wound with coils in 12 recesses, the opposite coils being connected in series. The steam generating plant is comprised of four of the Babcock and Wilcox type of water tube boilers, each capable of evaporating 8,500lbs of water per hour at a pressure of 150lbs per square inch, and the total heating surface in each boiler is 51 square feet. In close proximity to the boilers three Worthington steam pumps have been erected, each capable of supplying water to two of these boilers when fully loaded. At east end of the buildings are commodious offices and switch and test rooms. The switch room, in which all the electrical connections converge, is fitted with a very complete set of instruments for controlling the current and regulating its distribution between the several circuits. The three Lowrie-Hall alternating current dynamos, of 150 units each are connected by separate leads with the private lighting switchboard, so that any one of them can be run on either of the two mains. The arrangements also permit of the machines being run in parallel lines, and a special synchronising board is provided for this purpose.

Illustrations.

NEW MUNICIPAL OFFICES, BOMBAY—GROTESQUES ON PRINCIPAL STAIRCASE.

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The Irish Builder.

NOTICE.

All communications for the literary department of this journal should be addressed to "The Editor."

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It is to be distinctly understood that although we give place to letters of correspondents, we do not in all cases subscribe editorially to the opinions or statements set forth in same.

It is respectfully requested that all parties indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

We shall be glad to receive notes of works in contemplation or in progress in town or country.

Correspondents should send their names and addresses, not necessarily for publication.

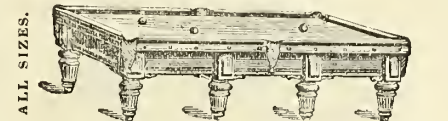
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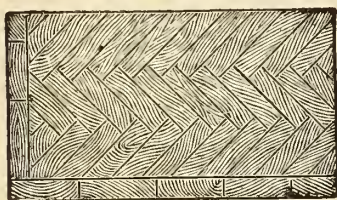
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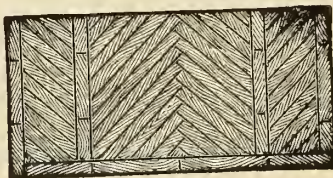
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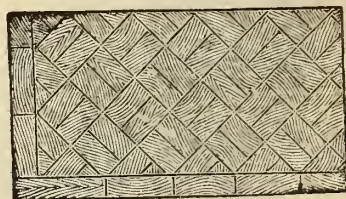
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VOL. XXXIV.—No. 786.

THE SANITARY INSTITUTE AT PORTSMOUTH.

THE PRESIDENT'S ADDRESS.



ON Monday last, the thirteenth congress of the Sanitary Institute was opened at Portsmouth. The inaugural meeting was held in the great hall of the Town Hall, when Sir Charles Cameron delivered the presidential address, of which we print

some of the more important items:—

My first duty, as President of this Congress, is to tender, on behalf of the Sanitary Institute, most cordial and hearty thanks to the Mayor, Municipality, and people of this ancient town for the kind reception they have accorded to their visitors. This town has no reason to dread the scrutiny to which it will be subjected by the swarm of hygienic critics attracted by this Congress, for it would indeed be a happy day for these countries if all their towns were as healthy as Portsmouth, which in this respect is only exceeded amongst the great towns by three—namely, Norwich, Derby, and Brighton. In the period 1881–90, the average death-rate in the 28 largest towns of England was 23. In Manchester it was 29·6, in Portsmouth it was 19·6, in Brighton 19·0, in Derby 19·3, in Norwich 19·1. These are the death-rates, corrected by age and sex distribution, and by the results of the Census of 1891.

My next duty is to express my thanks to the Council of the Sanitary Institute for the honour which they have done me in selecting me to preside at this important Congress, in which are assembled so many of the most distinguished sanitarians of these countries, and to whom I am sure my arguments will seem trite, and my facts threadbare. I believe that I am the first Irishman who has been invited to preside at any of the great annual gatherings held under the auspices of the Sanitary Institute. Perhaps I may be permitted to accept the fact as a compliment paid, not so much to so humble an individual as myself, but rather to the country from which I come, and which, indeed, has of late years no reason to complain of being unnoticed by the people on this side of the Channel. The reigns of many of the sovereigns of these countries have been rendered famous by successful wars, by great acquisition or loss of territory, by religious and political revolutions, by the works of intellectual giants, such as Shakespeare, Bacon, and Newton. The prosperous and prolonged reign of our beloved Queen has been as pregnant of great events as any of her royal predecessors, but the happiest and most characteristic feature of her glorious reign of five-and-fifty years, is the remarkable improvement which during that period has taken place in the health and comfort of her people. The Victorian era is the age of sanitary and social reforms—of diminished sickness, of increased longevity. Never has the British people been so free, so happy, so rich, so powerful, so educated, so moral, so

philanthropic, so healthy, as during the Victorian era. From the earliest ages since the people of these islands emerged from barbarism, some attention was given to the subject of public health, and a few enactments, more or less relating to the health of the people, may be found on the Parliamentary Statute Books, and amongst the edicts of the sovereigns previous to the nineteenth century. Their provisions were, however, rarely enforced, and if all the Sanitary Acts passed before Her Majesty's reign were collected, they would form a volume of no great size. There is no more convincing evidence that this is the age of sanitation, than the fact that the books on the subject published within the Victorian era would furnish a large library, whilst those of an older date would hardly garnish a single book-shelf. The higher estimation of preventive medicine, which lately prevails amongst professors of the healing art, is shown by the recent institution of degrees, diplomas, and certificates in public health, state medicine, and sanitary science by the universities and medical and surgical corporations.

I am proud, as a citizen of Dublin, to be able to state that the university of that city was the first to create a diploma in State Medicine. This was in the year 1865. Its example has been followed by all other medical licensing bodies, and there are now some hundreds of holders of sanitary qualifications. I may also be permitted to say in this connection that the Professorship of Hygiene, which I hold in the Royal College of Surgeons, Ireland, was the first instituted in Europe, with, I believe, one exception, namely, that in the Medical School of Montpellier. The chair of "Hygiene or Political Medicine" of the Irish College of Surgeons was established in 1844. Quite recently some of the medical licensing bodies have decided to require of candidates for their ordinary diplomas, evidence of study in sanitary science; and for the public health diplomas it must be shown that the candidates have worked in a chemical sanitary laboratory, and have studied the duties of a health officer under a medical officer of health. It is a good sign of the times to find that the Medical Act of 1887 made public health diplomas registrable qualifications. In the future no one will be eligible to act as medical officer of health for a town of 50,000 inhabitants and upwards, unless he holds a registrable qualification in public health.

SANITARY LAWS.

Before the Victorian era there were few sanitary laws worth administering, and consequently no *raison d'être* for local boards or officers of health. Some drainage works were carried out by the town and country authorities, and a few attempts were made to improve the water supplies of urban districts. The filth produced in towns had to be got rid of in some way; on the other hand people were taught to be too economical in the combustion of fuel, by the imposition of a rate on hearths, and they were encouraged to exclude daylight by having to pay a window-tax. The insanitary state of British towns was made painfully evident by the invasion of cholera in 1831. According to official statistics there died from cholera in 1831–2, 31,376 persons in England and Wales, and 21,171 in Ireland. In 1848 cholera reappeared in England and Wales, and destroyed 53,273 lives. In 1853 20,097 deaths were

ascribed to cholera, of which about one-half occurred in London. In 1866 it reappeared, but with less fatal results. The deaths in England attributed to it were 14,378, in Ireland 2,501, and in Scotland 1,470; total, 18,148. This lessened mortality was not due to the milder character of the disease, but rather to the towns being less filthy than they were during previous visitations. On the Continent, so virulent and widespread was cholera at this time that it is computed it caused more than one million of deaths. In Italy alone it carried off 120,000 victims; and in the small countries of Holland and Belgium it caused 50,000 deaths. When cholera first appeared in Dublin in 1831, the sanitary state of the city was deplorable, and consequently 5,632 out of a population of a quarter of a million perished. When it came again to Dublin in 1849, the condition of the city was not so bad, and the victims to cholera were only 1,664. In 1866 Dublin was for a third time visited by cholera, and on this occasion 923 deaths were caused by it. Sanitary matters were in 1866 better than in 1849; and were the disease again to invade Dublin, I venture to hope that it would be much less fatal than in 1866. I think that in British towns generally Asiatic cholera will not again cause such ravages as it did in 1831, 1848, 1854, and 1866. I am not very apprehensive that the epidemic which now rages on the Continent of Europe—in which it has appeared seventeen times since 1829—will extend to our islands. In 1864, Dublin had but one sanitary officer, now it has nearly fifty. It must be admitted that the administration of the sanitary laws involves a substantial outlay of money. It is, however, money well expended. It gives a good return in the form of a lessened sickness rate and reduced mortality. It diminishes pauperism by preserving the health of the working man. The death of the labourer by a preventable disease may have the effect of sending his children into the workhouse. Sanitation has greatly reduced the mortality caused by preventable diseases. We pay enormous sums for an army and navy to preserve us from foreign foes, to protect our liberty, property, and lives. But there are foes our brave sailors and soldiers cannot defend us from—enemies that kill annually far more than ever fell upon the battle-fields during our greatest wars. These enemies are the infective diseases which are not necessarily concomitants of human nature, and the attack of which may be, and some day shall be, warded off. We require an army of sanitarians to guard us against those deadly foes. They who vanquish them achieve victories far more glorious than ever warrior won. They are triumphs which are not followed by the groans of the wounded, and wail of the widow, or the cry of the orphan. The trophies of the conquest are increased health, life, and wealth to man.

SANITARY WORKS.

During the Victorian age many millions of money have been spent in the execution of sanitary works, and in the maintenance of a legion of sanitary officers. Have the results of this vast expenditure of money and human labour been such as to satisfy us that it has not been a waste of our pecuniary resources and our time? Do they encourage us to further outlay and increased exertions? I think both queries may be answered affirmatively. That money spent to improve the sanitary condition of places has not always

been judiciously laid out, is true; but the same may be said of expenditure for most other public purposes. It must moreover be admitted that the provisions of many of the Acts relating to health have not been fully carried out, and that many local sanitary authorities, especially in rural districts, have lamentably failed to perform the duties, whether permissive or mandatory, entrusted to them by Parliament. It would not be difficult to discover places where the sanitary statutes are almost or wholly dead letters. They would indeed be dead letters in more places than they are were it not for the powerful influence exercised upon public opinion and on the conduct of the authorities by such organisation as the Sanitary Institute, and by the pen and voice of earnest sanitarians. There are hundreds of towns and villages in these islands which are still unprovided with proper arrangements for drainage and filth disposal, and which are dependent upon scanty supplies of water, often of had or inferior quality. On the whole, however, it must be admitted that the sanitary powers confided to the local authorities have been largely put in force.

EDUCATION IN SANITATION.

The education of people in sanitation ought not to be confined to limited sections of society, but should be carried out as one complete and well-graduated system for the instruction of the whole nation. A study of the laws of health should form part of the system of primary education, and would be at least as interesting to the youthful mind as a study of the "three R's." The character and conduct of the man are mainly dependent upon the education and training of the child; so also in the future nation its action and progress will be the product of the education given to the actual nation in its infancy and youth. The sanitary lessons which are now being taught to the British people will bear good fruit in the century which is close at hand—the century, let us hope, of low and uniform death-rates. We are living in an epoch when man is earnestly striving for a higher and better life—when, perhaps, more than at any previous phase of his history, he subordinates the baser instincts of his nature to its higher and nobler attributes. Yet there are not wanting those who view with indifference or scepticism the efforts which man makes to purify himself morally and physically. These pessimists or realists, as they love to call themselves, can see nature only in its darker side. They paint the horrors of the plague, the carnage of the battle-field, the devastation of the earthquake and volcano, the destructive action of the tempest, the sufferings of the sick and dying, the long hours of toil, the intolerable evils of poverty, the miserable struggle for existence. They parade all the evils which afflict man—the review all his inherent failings, defects, and vices. They grimly and passively await the moment when they must shuffle off their mortal coil, and, like their meaner fellows in creation, commingle in an inevitable dissolution. Fortunately for human progress, these realists exercise but scant influence on the destiny of man. They seem to forget that the days of health outnumber the hours of sickness; that we rejoice infinitely more than we mourn; that love preponderates over hate; that there is more happiness than misery; that even pain has its uses, as a preserver of life, as an incentive to pity. Better far is it to look upon the bright side of nature, and to appreciate beauties of this glorious world of ours, with its towering mountains, its hilly seas, its magnificent forests, its vast expanses of emerald green, its innumerable forms of animal and vegetable life, its harmony of colours, its vast dome of sky, with glittering stars and golden orbs of light. Surely ours is a world well worth living in—a world of joy and beauty, which well may inspire us to look from nature up to nature's God; a world of which the poet says:—

"The poetry of earth is never dead;
When all the birds are faint with the hot sun,
And hide in cooling trees; a voice will run
From hedge to hedge about the new-mown mead,"

Many of the evils which the pessimists believe to be irremediable, are in reality within man's power to lessen or destroy. Not a few of them arise from systematic violations of the laws of life and health. We can hardly be clean in our minds, if we are foul in our bodies. Let us keep corruption as far from us as possible. We should dwell in the freshness of things, and remember always that filth is synonymous with disease and death; let us worship at the shrine of that goddess who has given a name to the noblest of the sciences—that which relates to the preservation and improvement of that precious porcelain of man's body. Hygeia is depicted as not only beautiful but vigorous, typical of what the human form ought to be. A great American poet says of her:—

"The laden footsteps of care
Leap to the tune of her pace,
Fairest of all that is fair;
Grace at the heart of all grace!
Sweet her of hut and of hall,
Bringer of life out of naught—
Hygeia, oh fairest of all
The daughters of time and thought!"

ANTIQUITIES IN SOUTH WEXFORD— A FOUR DAYS' TOUR.*

IN these days, when an effort is being made to awaken our fellow-countrymen to a sense of the beauties of their own land, and to show them that their time can be more profitably employed in examining those beauties than sojourning in one of the unsanitary foreign resorts, from which too often the seeds of weary sickness and disease are brought home, it may not be unsuitable to lay before your readers a short account of a four days' tour in a part of Ireland that is remarkable for the beauty of its scenery, and the abundance of its antiquarian treasures. Our party (which was under the guidance of that well-known antiquary, Colonel P. D. Vigors, F.R.S.A., of Holloden, County Carlow), met on a Wednesday at Shanahan's Hotel, in the town of New Ross, County Wexford, which we made our headquarters during the tour.

The ancient town of New Ross seems to have been called "new" because of its great antiquity; for, looking back into the far-off distant past of the sixth century, we find that St. Abhanns founded a monastery there. The keen eyes of the Normans saw its suitability for a trading settlement, and they established themselves at this place, probably on the site of an earlier Irish town. In the thirteenth century, this town was surrounded by a wall, with gates and bastions, the erection of which is quaintly described in a contemporary Norman-French poem. One of our greatest antiquaries has said that "perhaps no Irish town once held so many monuments of the taste and skill of our ancestors as New Ross." Within its walls there were to be found, from time to time, three monastic establishments, a noble early-English church, with crypt, and two minor chapels. The town occupies a commanding situation on the side of one of those beautifully wooded hills that surround the valley, through which the broad waters of the River Barrow flow, and from the earliest times it was represented in the Parliaments of the land, being what is called a borough by prescription. Having walked through the town, and admired the handsome quays, alongside which ships of the largest tonnage can ride in safety, our party visited the Town Hall, where, with characteristic courtesy, the Town Clerk, Mr. Tobin, exhibited to us the old charters and the ancient corporate records, richly illuminated

in many parts with the arms of the sovereigns; also the maces of the Corporation, one of them a very beautiful specimen of the silversmith's work. The other, although much smaller, and less beautifully formed, had an interest of its own, as tradition tells us that it was a trophy of war taken by the Corporation of Ross from the men of Waterford, during a well-contested naval fight between the two towns, which took place owing to a dispute as to the extent of their respective jurisdictions.

Our party then left the Town Hall, and proceeded along South-street, to the site of the Friar's gardens and graveyard (now private gardens and a malting store), and Colonel Vigors, true to the spirit of his work, as founder of the Fund for the Preservation of the Memorials of the Dead, discovered some very early tombs, richly adorned with sculpture, which will in due time appear in the publications of that Fund. Next we visited the site of the Priory Gate, and went from that up one of the steep streets that followed the course of the old town wall to the site of the Three Bullet Gate, so called from the three bullets that Cromwell fired into it when he summoned the town to surrender, which bullets were found embedded in the masonry when the gate was taken down. Until quite lately the following singular notice, cut in a stone, was to be found fixed in the wall of a modern corn-store:—

"This is the west side of Bewley Gate,
Taken down in the year 1845
By consent of the Town Commissioners."

Not far from the site of the Three Bullet, or Bewley Gate, we noticed one of the old towers that guarded the town wall, in excellent preservation; and, walking along a narrow road that evidently followed the course of the old wall, we could plainly distinguish the fosse that was outside the fortifications. Our roadway led us to the site of the Market Gate, and we could see, even from the existing remains, that, when perfect, it well deserved to be called a "beautiful early-English gateway." Our party then visited the old Abbey Church adjoining the Parish Church, and there we can, indeed, promise the antiquary a treat. He will find the remains of a splendid early-English church, with a crypt. The chancel with the north and south transepts, are still in fair preservation, and contain a number of beautifully-sculptured tombs, with inscriptions in black letter. In the north transept, the Butler and Dormer tombs, and the unnamed figures of an earlier date, are particularly interesting. The chancel contains a perfect sedilia and piscina at the south side, and a beautiful recessed tomb at the north side. The south transept is a real gem, and contains a most beautiful and perfect early-English three-light window. There are also two chapels at the east side of this transept. Our party concluded this day's excursion by tracing the old town walls down to the site of the Augustinian Abbey and the North Gate.

On Thursday we left the town at the south side, and drove some seven miles to the ruins of the old Norman Castle of Ballykeroke; and, even before the old stronghold of the Sutton family came in sight, we could detect the presence of an early-Norman settlement, by the paved road of large closely-set stones that we were driving over. Very extensive remains of this castle are still to be found, telling of its old-time importance. Perhaps the most striking of these is the old grey tower—one of those that at one time defended the bawn—which no

* By Rev. J. F. M. French, M.R.I.A., of Clonagall. Extracted from the *Daily Express* of the 6th inst., and revised for the *Irish Builder*.

stands out by itself like an ancient sentinel, lifting its head high up into the heavens, and keeping watch and ward over the other ruins. A lady of our party photographed the castle, and we then drove on to Dunbrody Abbey, a truly magnificent pile of ruins, erected by one of Earl Strongbow's principal captains. I have visited many of the most notable abbeys in Ireland, but none of them impressed themselves so much on me as Dunbrody, when it first came in view. Its immense mass standing out against the clear blue sky, and not dwarfed by the neighbourhood of even a rising ground, has a kind of solitary grandeur about it that you do not find elsewhere; and, when you look on it, you at once find yourself saying, "Surely it is no wonder that the men who erected such a building as that, were able to carve out principalities for themselves with their broad swords," for there is strength and power depicted in every wall and tower of that splendid pile. The great central tower is still as perfect as when it proceeded from the masons' hands; it stands on arches that are magnificent in their height, and noble in their proportions. The chancel, also, is perfect, and the nave, but for the destruction of the great western window, would be fairly so. The western door is perfect, and in some respects peculiar. The greater part of the building is of a severe early-English type, but in many places you can see signs of a transition period, and that the old Norman style had not altogether lost its hold on those truly mighty builders. With regret we left Dunbrody, and drove home along a handsome road which passed through the demesnes of several country gentlemen.

On Friday, our party left New Ross by the good steamship *Ida*, for the City of Waterford, and splendid weather enabled us to enjoy a sail down the river, which, for its beautiful surroundings, could not easily be surpassed. As we approached the City of Waterford, we passed through a series of gentlemen's demesnes which line the banks of the river at either side for miles, and form a most picturesque fringe to that good old city—a city which once had an independent Danish king ruling over it, and subsequently played an important part in the history of the occupation of this country by the Normans. As we sailed up to the quays, it was pleasing to observe a bustle and activity that was not to be seen at New Ross; and the long line of steamers moored at its quays, bearing such names as the *Dunbrody* and the *Reginald*, reminded us that in all probability they were of "home manufacture," and had been built in the City of Waterford shipbuilding yards. As we landed, we saw, just before us on the quay, the old circular keep, called "Reginald's Tower," said by some to have been built by Reginald the Dane, King of Waterford in 1003; and by others to have been built by the Normans, on the site of an earlier tower of his construction. From the quays we proceeded, up one of the side streets, to the Cathedral, which is one of those rather unsightly constructions that were erected during the Georgian era. The Danes built a Cathedral here in the year 1096, and some fragments of that building, with the crypt, still remain. All that Art could do, has been done with considerable success by that distinguished architect, Mr. Thomas Drew, F.R.S.A., to convert this unsightly building into a dignified church. Yet, to an eye accustomed to Gothic architecture in eccle-

siastical buildings, it seems more like a handsome town-hall than a cathedral. Our party were much interested in the monuments that abound in it, many of which were transferred to it from the older Cathedral. We next called upon the Dean, and, by his kind permission, we visited the ruins of the old church, which was built for the accommodation of the French Protestants. The fine old square tower of this church is a very conspicuous object as it appears over the roofs of the houses; but what a scene of desolation there is within! A charitable institution, called the Holy Ghost Hospital, was erected over the nave, and it is in a very dangerous state, and in imminent danger of falling in, and burying the fine old black-lettered monuments in the church, under a heap of ruins. It is strange that the many families whose ancestors are buried there, do not make some effort to preserve the monuments of their forefathers from destruction. This could be done by taking down the dangerous ruins, which are of red brick, and they would probably be removed by a building contractor, free of expense, if he were given the materials. Among the families whose graves we noticed, there were those of the Roberts family, represented in India by the well-known General, Lord Roberts, and in Dublin, by Samuel Ussher Roberts, Esq., C.B., late Commissioner of Public Works, Ireland; and the family of Dobbins, well known in legal circles. We subsequently visited the remains of the city walls, and one of the protecting towers, which we found in excellent preservation, amongst the stables of Messrs. Widge, the notable horse-dealers. Our next visit was paid to the ruins of the Black Friars' Abbey, and from that we returned to our steamer, and by it to New Ross.

On the following day, our party divided—some devoting themselves to taking rubbings of inscriptions, whilst others photographed the city maces, and searched out relics of antiquity. One of those which came under the notice of our party was the remains of a "dug out canoe" which had been taken up from the bed of the river Barrow. This prehistoric remnant had been hollowed out of a single tree. In the afternoon our party broke up, and left for their homes, much pleased with their four days' tour. If time permitted, this tour might have been greatly extended, and many other places of interest in South Wexford visited, such as the ruins of Tintern Abbey and the Seven Castles of Clonmines, the site of the buried town of Bannow, and the Castle of Adamstown, which were all within a drive; or we might have passed up the River Nore to the well-known and beautiful demesne of Woodstock, which was within easy reach, or, *via* Waterford, we might have visited the lordly demesne of Curraghmore, where, at one time, the lords of Waterford wielded almost regal power. Many other places, too numerous to mention, would have well repaid a visit, but I think the foregoing sketch will show anyone who has a short holiday to spend, that his time can be pleasantly and profitably occupied in South Wexford and its neighbourhood.

THE PRIMATIAL SEE OF ARMAGH.

THERE have been many opinions of ecclesiastical historians and writers, concerning the origin of metropolitan sees.¹ Archbishop Ussher traces their establishment to the time

of the Apostles.² Thus, the patriarchal rights of Alexandria descended from St. Mark; the primatial rights of Rome came from St. Peter; while Eusebius states,³ that Titus had the superintendency of all the churches in Crete, and St. John Chrysostom mentions⁴ that the Apostle committed to him the whole island, with power to censure all bishops living in it.

In the case of Ireland, we need not lay any particular stress upon a special canon of the Council of Sardica, in Illyria. This Council had been held before St. Patrick's time, and in the year 347.⁵ That canon required bishops not to be placed, except in large or respectable cities;⁶ such a regulation could not well be applied to this country, in which very few large cities were then to be found. Not alone the creation and provision for a see and bishop at Armagh, until then only a field, but numberless other instances, sufficiently prove, that such a rule was never observed in Ireland. Nor was it strictly adhered to in other countries.⁷

According to the most ancient usages, the primatial and metropolitan privileges were derived from the founders of sees, whether these places were great or small. In the case of Armagh, we have an argument directly opposite to that of those, who have pretended that the metropolitan rights of cities in the ecclesiastical system were founded on rights, assimilated to their civic or temporal dignities.

It seems to be well established, that the metropolitan privileges of Armagh, where there was not even a house before his time, were derived from St. Patrick's having chosen a site for his church and a permanent residence in that place. Afterwards, it grew to be a town or city of considerable importance.

In the catalogue of the saints of Ireland,⁸ we are told, that the first Order lived in the time of the Irish Apostle, and that they were then all bishops, famous and holy, and full of the Holy Ghost; that they had one head Christ, and one chief Patrick. According to their system, and the Irish Apostle exercising such a moral influence over them, he would naturally exercise a practical jurisdiction over themselves and their churches, while, after the death of St. Patrick, they would necessarily look up to his successor as his representative, the depository of his doctrine, and therefore practically as their guide.⁹

According to the usual practice of all countries, the new bishops, and others afterwards appointed in whatsoever part of Ireland, continued as suffragans and subject to St. Patrick's successors, in Armagh.¹⁰ There was only one metropolitan see—that of Armagh—until the twelfth century, when in 1152, Cardinal John Paparo brought four bulls from Pope Eugenius III., and then the whole of Ireland was divided into the ecclesiastical provinces of Armagh, Dublin, Cashel, and Tuam. Each of these metropolitan sees had a certain number of suffragan sees subordinate to them, but the Primacy was vested in Armagh.¹¹

² In his Treatise: "A Discourse of the Original of Bishops and Metropolitans." Oxford, 1641. 4to.

³ See "Historia Ecclesiastica," Lib. iii., cap. 4.

⁴ See "Opera Omnia," Homilia I. in Titum.

⁵ See Sir Harris Nicolas' "Chronology of History," p. 214.

⁶ See R. P. Joannis Cabassutii "Notitia Ecclesiastica Historiarum, Conciliorum, et Canonum," &c. Synodus Oecumenica Sardicensis anni a Christo 347, Canon vi., p. 140.

⁷ See Rev. Joseph Bingham's "Origines Ecclesiasticæ, or Antiquities of the Christian Church," book ii., chap. xii.

⁸ See Archbishop Ussher's Works, vol. vi., p. 477.

⁹ See Rev. Dr. James Henthorn Todd's "St. Patrick, Apostle of Ireland," Introductory Dissertation, p. 94.

¹⁰ See Rev. Dr. Lanigan's "Ecclesiastical History of Ireland," vol. i., chap. vii., sect. i., n. 2., pp. 320, 321.

¹¹ See Sir James Ware, "De Hibernia et Antiquitatibus ejus, Disquisitiones," cap. xvi., pp. 73 to 78.

¹ See Rev. Joseph Bingham's "Origines Ecclesiasticæ, or Antiquities of the Christian Church," book ii., chap. xvi.

Referring to St. Bernard's testimony,¹² concerning the extent of the jurisdiction of that see over all Ireland, in the time of St. Malachy O'Morgair, not a shadow of doubt remains on this subject.

THE ROYAL SOCIETY OF THE ANTIQUARIES OF IRELAND.

We print below brief abstracts of the papers read at Belfast meeting, in addition to those already given.

THE ANGLO-NORMAN CASTLES OF COUNTY DOWN.

Mr. F. W. Lockwood, C.E., read a paper on "The Anglo-Norman Castles of the County Down." Although the castles erected by the English in Down are with two exceptions not of first class magnitude, yet their position gives them an interest quite apart from their size or political importance. In this respect, they were generally outside the main current of Irish history. The eastern half of Down was one of the earliest parts of Ireland to be occupied by the English. Less than thirty years after Strongbow had crossed the Channel, John DeCourcy had marched from Dublin, plundered Downpatrick, slaughtered its defenders, and before the end of the century the English had strongly planted themselves over the whole of Lecale and Ards. Their position was somewhat peculiar, for between East Down and the English Pale stood Carlingford Lough and the double mass of the Carlingford and Mourne Mountains, and all the bogs and forests and broken country that lay behind them. The sea was the true base of the Castles in Down, and hence we find De Courcy and his successors for several centuries planting their strongholds at the head of every Lagoon or creek, as at Dundrum, Downpatrick, Killyleagh, and Strangford, or on projecting peninsulas or islands like Sketrick, Mahee, and Ardrkeen. They are, in most cases close to the shore, and the same principle was carried out in Antrim, such as in the Castles of Carrickfergus and Oldfleet. They might be divided into two groups, those on the shores of or near Strangford Lough forming one. Details were then given of some of the castles which were fully illustrated by Mr. Lockwood in a series of drawings.

VESTIGES OF MEDIEVAL SCULPTURED FOLIAGE AND OTHER ART WORK IN THE CHURCHES AND ABBEY PRECINCTS OF THE UNITED DIOCESE OF DOWN AND CONNOR AND DROMORE.

Mr J. J. Phillips read a lengthened paper on this subject. He referred to the many ruins of abbeys and other religious houses which are to be found scattered up and down the diocese, and particularly to those in the Ards district of County Down, and described the varied and beautiful carvings and sculptured remains found in them. The paper was illustrated by a large number of photographs and drawings of these objects.

Rev. Denis Murphy, said there was a very old chalice in the possession of the nuns of Downpatrick, which, he believed, was one belonging to Inch Abbey.

THE MOYLARG CRANNOG, CO. ANTRIM.

Rev. George Buick, M.A., read a paper on the Moylurg Crannog, near the centre of a marshy tract 25 acres in extent, and bordered by a ring of black oak stakes nearly 30 yards diameter. The explorations have covered a period of five years, and work could only be carried on during a few weeks of the driest summer weather. The first articles found, in a large heap of ashes, consisted of one flint arrow-head and a large number of flint scrapers and chips. In the hearth a quantity of bones were found of the cow, horse, sheep, and goat, red-deer antlers, but no trace of fowl bones or egg-shells, a stone celt, an ingot of bronze and its mould, and a fragment of a crucible. Further excavations disclosed a stratum of branches and bracken, six to eight in. thick, hazel nuts and bones

being common in the stratum. Four tracked stones, with deep indentations on each side, which showed that they were most probably used for sharpening, as the lines ran in opposite directions, the stone being hung from a belt. Nowhere else in Ireland have they been found with objects likely to throw light on their uses, but in Scotland they have been found with iron and glass, as well as stone and bronze. In another direction a portion of a small leaden cross, a spindle and whorl, a bone pin, a bone needle, a chisel of bone, a hammer head of horn, three horn handles, a small circlet of bronze, a couple of glass heads, fragments of jet and glass bracelets, a half of a pair of shears, and an iron hook, were found, and a small axe of the Gallowglass type. The style of the leaden cross is one peculiar to the ninth and tenth centuries. Mr. Buick then described the dwelling as excavated, and the method of structure, and further discoveries of whetstone, fragments of querns, pottery, and other articles. Numerous examples of the finds added largely to the interest of the paper.

SOME COUNTY DOWN SOUTERRAINS.

Mr. W. Gray, M.R.I.A., submitted a contribution bearing this title. He said in the neighbourhood of Tyrella, County Down, between Tyrella Church and the old Castle of Rathmullan, there were the remains of three souterrains, a class of ancient structures of which there were many examples in Down and Antrim; but they were gradually disappearing to make way for improvements of modern agriculturists. In the locality indicated there was one example in a field near the Parish Church of Tyrella. Another occurred beneath the site of an ancient fort at the side of the public road from Tyrella to Rathmullan. The fort itself had been levelled, and the souterrain was damaged and closed up. The third souterrain was that which gave the name of Cave Hill, a little to the west of the old fort of Rathmullan, and near the boundary of Rathmullan and Tyrella. Mr. Gray proceeded to enter into details concerning the last-named souterrain, acknowledging that he was indebted for the particulars to the kindness of a member of their society, Rev. David Gordon, Downpatrick. The chief point of interest in connection with it was the ingenuity displayed in the construction of the defensive barriers separating the chambers. At each there was a strong partition built across the chambers, in which there was a small doorway or opening 2 ft. 6 in. high, and 2 ft. wide, and this reduced doorway or passage was again covered by a cross wall built 15 in. from the opening, and of the same height, so that a person entering must get over the protecting screen wall, doorway or passage in the partition, which measured only 2 ft. 6 in. by 2 ft.

IRISH STONE AXES AND CHISELS.

Mr. W. J. Knowles, M.R.I.A., read a paper on "Irish Stone Axes and Chisels." He remarked at the outset that Mr. John Evans (now Sir John Evans), in "Ancient Stone Implements and Ornaments of Great Britain," described the stone celts of Great Britain under three heads—(1) Those merely chipped, and not ground or polished; (2) those which, after being chipped, were ground at the edge only; and (3) those which were ground or polished all over. Irish celts could be similarly classed, and he (Mr. Knowles) would treat them under those heads were it not that they had in Ireland many types showing characteristics of another kind. These types were well marked, and each of them had many examples very much alike. These he preferred to describe, rather than adhere closely to Sir John Evans' plan, but he would adopt his terms. Mr. Knowles then proceeded to deal with various classes that had come under his own observation, and illustrated his remarks by producing numerous specimens, the peculiarities of which he fully described.

taken as read, and referred to council for publication:—"The Ancient Earthworks known as the Dane's Cast and the Dorsey, in the Counties of Down and Armagh," by Rev. H. W. Lett, M.A.; "Notes on the Round Towers of Cloyne, Roscam, and Iniskean," by W. F. Wakeman; "Some Ancient Ecclesiastical Bronze Bells in Ulster," by Seaton F. Milligan, M.R.I.A.; "The 'Geraldine's Throw' (identification of the spot referred to in a sixteenth century legend related by Holinshed), by Lord Walter FitzGerald; "Ecclesiastical uses of some Caves in Ireland, suggested by the discovery last month of a similar structure in Thessalonica;" and "A Note for record on the Books of the Society, that 'Brugh-na-Boinne,' the name of the place where were interred the Pagan Kings of Ireland, is still used as a name for its site," by Rev. J. O'Lavery.

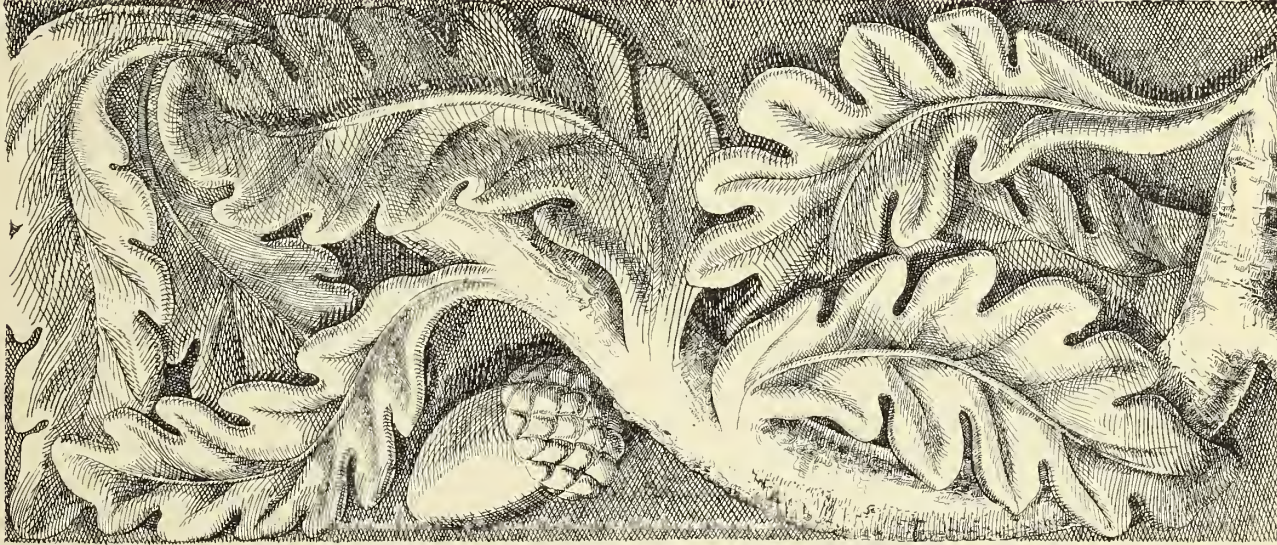
SEWAGE OUTFALL WORKS AT PORTSMOUTH.*

THERE is so little of novelty, or of matter calling for attention, in the Portsmouth sewage outfall works, that the author feels bound to apologise to the Institution for presenting a paper upon them. He offers, however, these three facts in excuse:—the first, that the works are in the town where the Institution is holding its summer meeting, and can therefore be readily visited; the second, that they were carried out by one of your Past-Presidents; and the third, that the system depends entirely upon the employment of steam engines and pumps, and is, therefore, essentially one of mechanical engineering. This paper does not pretend to deal with the sewerage system of the district generally, with the original designing and laying out of which the writer had nothing to do. He found that system in existence; and, except that, prior to the commencement of the outfall works, there was undertaken the task of clearing out accumulations of sludge from the sewers, and that during the execution of the outfall works some portions of the system were renewed with better materials and rearranged so as to give better falls, he wished it to be understood that the title of the paper practically expresses the limit of the work for which he is responsible.

District.—The district to be sewered being of considerable extent, and as a rule flat and low-lying—indeed but slightly above the sea level,—those who had laid out the works of sewerage had found it impossible to obtain, or even to approximate to, a proper inclination of the sewers, without causing their point of delivery into the sea to be at some depth below ordinary high-water; and therefore the original outfall plan, which was in operation immediately preceding the time when the writer undertook the work, was one that involved the pumping of some portion of the sewage.

Sewerage System and Pumping Arrangements.—The system of sewers and the arrangements for pumping were generally as follows. For Portsmouth and for the outlying neighbourhood there were, and still are, four main arterial lines of sewers; two of the lines are at a high level, and two at a low level, each line passing through a different portion of the district, and each being provided with its tributary sewers, drains, and house connexions. These four lines converged towards the Henderson-road at Eastney, and were there brought into two main lines, one high-level and one low-level, which delivered into sumps at the pumping-station, situate at the eastern end of the Henderson-road. From these sumps the sewage was lifted by engines, constructed by Clayton of Preston, into an outfall brick sewer, which, proceeding from the pumping-

* By Sir F. Bramwell, F.R.S. Read at Meeting of the Institution of Mechanical Engineers at Portsmouth last month, and published in the *Builder*.



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station, terminated on the seashore at Fort Cumberland, and was continued by two cast-iron pipes of 3 ft. bore, extending about a quarter of a mile into the sea.

Outfall.—It need hardly be said that commonly the greatest difficulty—in fact, the difficulty—in town drainage is to find an outfall which will admit of the delivery of the sewage without setting up a nuisance—a nuisance which either may be one recoiling upon those who have delivered the sewage, or may be, and not infrequently is, one that is inflicted upon another locality. In the case of seaside towns, such as Portsmouth, the simplest and the most ready way of dealing with sewage, when collected, is to deliver it into the sea, choosing, if possible, some point where its delivery will not be a nuisance, and also, if possible, some point where it can be caused to flow into a tidal or other current, which will with certainty carry it away from the neighbouring shores. In this particular respect Portsmouth is well placed, for there is situated about a mile to the east of Southsea the large natural reservoir or body of tidal water called Langstone Harbour. The main channel to this harbour from the open sea passes near Fort Cumberland, and is there only some four hundred yards wide; and as the greater portion of the water at Langstone Harbour flows in and out through this channel at each tide, the maximum current at spring tides has a velocity of sometimes as much as five to six miles an hour. It is obvious that, in order to obtain the advantages afforded by the proximity of Langstone Harbour to Portsmouth, the delivery of sewage should never be made during a flood tide, as that would simply mean carrying the matter into the harbour, to be there deposited and to accumulate. It is further obvious that the delivery should be confined to so much of the ebb tide as will cause the sewage to be carried such a distance that it shall not return during the latter portion of the flood, and thus shall not reach the harbour or the adjacent foreshores. In the scheme of outfall which preceded the works carried out by the writer, the intention was that the pumping engines should go to work at about one hour after high water, continuing for the whole of the early portion of the ebb—in fact, until the tide had fallen so low that the outfall sewer would deliver naturally. This arrangement, however, was attended by the difficulty of the cessation of the delivery of sewage during a considerable portion of the flood tide. And further, the production of sewage being continuous, although not uniform, while the period of delivery must vary in its time from day to day according to the tide, it followed that every fortnight there occurred times when the hours of greatest production of sewage were the very hours during which the sewers could not deliver naturally, and when also the pumps should not work. At such times the sewage had to accumulate in the sewers, the accumulation beginning from the immediate neighbourhood of the pumps, and extending backwards up the sewers to such distance inland as sufficed to contain it. It need hardly be said that this was a system where, owing to the cessation of all current in the sewers, subsidence of the more solid portions of the sewage readily took place; and a great part of this subsidence was not cleared out by the renewal of the current in the sewers when pumping was recommenced. Under these circumstances it was not surprising to find that, in the effort to make a compromise between the conflicting difficulties, the outflow was continued not only during the whole of the later portion of the ebb tide, but frequently also for some portion of the flood tide; and that, notwithstanding this improper extension of the pumping time, serious accumulations of material took place in the sewers.

Tidal Experiments.—Before proceeding to develop an outfall system which should overcome these difficulties, the writer thought it necessary to obtain practical and trustworthy information as to the behaviour of the currents after they had flowed out from Lang-

stone Harbour, under all the changes of tides from springs to neaps, and, as far as possible, under the variations due to the direction and force of the wind. During the winter and spring of 1883-84 a long series of experiments were carried out in all sorts of weather, and in all states of the tide, by means of the usual vertical float, made of a piece of scaffold-pole, 6 in. diameter and 5 ft. long, and weighted at its lower end, so that in still salt water about 4 in. only of the upper part was above the surface. The floats were, in all cases, put into the sea as nearly as possible at the intended point of delivery of the sewage, and were followed by a boat, in which were the observers, who at regular intervals took the bearings of certain fixed points on the shore, by means of an azimuth compass, or of a theodolite. In all, something like thirty experiments were made. The records were afterwards plotted. It was found that, whether the tides were springs or neaps, and whatever might be the direction of the wind, the floats immersed shortly after high water, were carried out to sea, and had no tendency to re-approach the shore. These experiments confirmed the anticipation and hope entertained, namely, that, if the delivery of the sewage could be confined to a brief period, beginning shortly after the commencement of the ebb tide, it would be possible to fulfil the condition of getting rid, once and for all, of the sewage matter of Portsmouth, without the production of nuisance either to Portsmouth itself or to any other locality. With respect to the other part of the problem,—that of preserving a continuous flow in the sewers,—the solution clearly was to keep the pumping power constantly at work, and to provide it of such capacity that it should be able to deal with the maximum amount of sewage (not only for the present time but for fifteen years to come), and also with that portion of the rain water which would inevitably find its way into the sewers along with the house sewage, the ordinary rainfall being partly disposed of by a separate system.

Storage Tank.—These two conditions,—of the pumping power being continuously at work, and of the delivery of the sewage being restricted to two brief periods in the twenty-four hours, namely, shortly after each high water,—involved the provision of a storage-tank of sufficient capacity to contain all that was pumped during the time the outfall was closed; in fact, the maximum sewage then being brought to the existing pumping-engines, and the sewage of Stamshaw, an outlying part of the borough to the north, and of the Government establishments, dockyard, barracks, &c., not at that time connected with the system; and also a certain portion of the rain-water. Further, an estimate was made, based on the increase of the population in the previous decennial period 1871-81, of the probable population to be dealt with at the end of the next fifteen years. Bearing these circumstances in mind, it was determined to give the tank an aggregate capacity of $4\frac{1}{2}$ million gallons. Having regard to the necessity for very rapid discharge from the tank into the sea—a discharge, in fact, restricted to an hour,—it was obviously desirable that the site of the tank should be as near to the point of delivery as possible, so as to keep down the length of the very large outlet channels required. Fortunately the Corporation of Portsmouth, by agreement with the military authorities, were permitted to make use of the glaciis of Fort Cumberland for the site of the tank; and were thereby enabled to construct it on the very margin of the channel from Langstone Harbour. As it was necessary to keep the upper surface of the tank at such a level that its cover, forming once more the glaciis of the fort, should not be raised so as to interfere with the line of fire, and as it was also necessary that the floor of the tank should be but little below ordinary high water, in order to enable it to be entirely emptied when the tide had fallen but a small distance, the depth of the tank had to be limited to 11 ft. 6 in., thus involving an area (including the outer walls) of some $1\frac{1}{2}$ to 2 acres. The tank is divided in plan into

three compartments, which are distinct and are practically equal in area. Any one of these can if necessary be thrown out of use for repair; and advantage has been taken of this division to enable any compartments, by means of the cross culvert at the sea end, to be flushed for cleansing purposes, by passing through it to the sea the contents of either or both of the other compartments. Further, although the tank is filled by pumping, and not by gravitation, and therefore there should not be pumped into it any sewage in excess of its capacity, yet each compartment of the tank is provided with an overflow direct into the outlet culvert.

Ventilation.—As the tank occupies the glaciis of Fort Cumberland, the military authorities, as one of the conditions upon which the use of the land was granted, insisted upon some artificial mode of ventilation being provided, because fears were entertained by them that possible nuisance might be caused to the garrison of the fort. Advantage was taken of the overflow and outlet culvert to ventilate the tank by connecting it through a flue to a chimney having its outlet at a height of 90 ft. above the ground level, the inlets for fresh air being through the roof of the tank, each provided with a self-acting flap-valve, hung so as to open only inwards, and placed at the sea end of the tank, the part most remote from the fort. A furnace is provided at the base of the chimney; and all the air supply for this furnace is, as a rule, drawn from the tank, and so through the fire, thus providing for the combustion of deleterious gases.

Construction.—The tank was constructed with Portland cement concrete walls, with an internal brick facing set in cement, and with a vertical water-tight collar-joint, also in cement, between the concrete and the brick lining. On the brick work of the lining walls, in which at intervals brick piers or pilasters are built, and on cruciform brick piers founded on the concrete bottom of the tank, the brick arches forming the roof are carried; the haunches of these arches are filled in with rough concrete, laid with a fall towards small drains which are carried on the concrete in the centres between the arches. On the completion of the arched roof the shingle and the mould were replaced, and the surface was sown with grass and clover-seed. The tank roof had to be of sufficient strength to carry field artillery, which in any military operations might possibly have to traverse it. Experiments were made to find the minimum number of half-brick rings necessary to support, with arches of this character, the required weights. As a result of the tidal experiments, it was found desirable to provide for the whole of the sewage being discharged in a period of one hour, this period commencing from an hour to an hour and a half after high water. That is to say, with the very slight head provided by the tank, the whole of its contents, namely $4\frac{1}{2}$ million gallons, had to be got rid of in sixty minutes. The outlet culvert, which extends crossways of the tank at the end farthest away from the sea, was therefore made as large as 6 ft. 6 in. by 5 ft., or roughly more than 30 square ft. in area. This culvert delivers into a small chamber from which three cast-iron outlet pipes, each 3 ft. 6 in. diameter of bore, were laid across the foreshore to below low-water mark.

(To be continued.)

THE NEW COINAGE has hung fire for a long time, but the *Chronicle* understands that the accepted designs of Mr. Brock, R.A., are in an advanced state, and that the issue of them may be expected for the early months of next year. There have been three heads of Her Majesty upon the coinage—the youthful head which was upon all coins until the Jubilee issue, and is still upon so many in circulation; the Gothic head and crown upon the older florin; and the effigy with which Sir Edgar Boehm disfigured the Jubilee coinage. It is probable that the new coins will bear a head more appropriate to date than the girlish one, and far more graceful than the latter one—a head encircled with a small tiara, similar to that on much of our colonial coinage.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 191.)

THE most ancient historic account we have of a road passing through Leix, is that of one running southwards from the Hill of Tara in Meath towards Ballaghmore, on the southern slope of the Slieve Bloom Mountains, and which extended eastwards from the latter range. It may be premised, that this was merely an opening through the woods or the cultivated spots, but rendered somewhat smooth and levelled for the passage of the primitive chariots and carts, as well as for horsemen and pedestrians.

At what particular northern point the road from Tara entered Leix does not appear to have been determined, as few traces of its original simple construction could now be expected to remain, after the lapse of so many ages. That it crossed the River Barrow at some fordable pass on its upper course seems probable, and within the modern barony of Tinnahinch. It passed through Upper Ossory, which was formerly a portion of Leix. It also continued in a southern direction north of the Nore, and afterwards it bent westwardly towards Roscrea and through the territory of Ely O'Carroll.

According to ancient tradition, on the night of the birth of Conn of the Hundred Battles, the following five great roads extending in various directions from the Hill of Tara are recorded to have been found or perhaps made; viz., the Slighe-asuil, Slighe-midhluachra, Slighe-cualann, Slighe-mhor,¹ and the Slighe-dhala. According to the Dinneanechus, the Sligi Dala was discovered by Setna Sere-derg, the son of Durbaide, before the Druids of Irmumhain, on their way to Teamur, or it was Dala himself that watched for him.²

It is stated, by Dr. Petrie, that the Slighe Dala led from the southern side of the Hill of Tara in the direction of Ossory and East Munster; and it is most probable, that the track at its junction with Tara is still preserved in the southern road from the Hill.³ But, whether the meeting of the Escir Riada by the Slighe-Mor meant continuing in its course or crossing it, does not seem to be a matter of easy solution.⁴

Merely indications of passes through the woods, and very partially displayed, are to be found on the most ancient coloured map of Leix we now possess; but, so incorrect and irregular is the outline of country traversed, that no accurate idea is afforded to trace their direction and connexion.

There is a well traced map of ancient Leix, copied from that drawn in the time of Queen Elizabeth, by Mr. John O'Donovan, and it is mounted on linen.⁵ This presents us with identifications of the various objects noted and named on the ancient map, but with truer bearings and more intelligible lettering, so that the districts and localities being better defined, they may be more easily identified with modern denominations.⁶

Nearly a century elapsed before a regular survey of the Queen's County had been made, since the map of Queen Elizabeth's time had been traced, before Dr. William Petty entered into a contract with the English Government in December, 1654, for surveying the lands of Ireland, with a view of distributing large tracts of confiscated estates among the parliamentary adherents and soldiers of Oliver Cromwell. However, the

staff of surveyors had been organised before that time, and his part of the task was completed in the amazingly short term of thirteen months. Tested by the efforts at map-making which had gone before, it was a very remarkable undertaking; but, of course, as a topographical work it wants the precision and accuracy of modern measurements and distances. Although the spellings of local denominations are often false, and based on phonetic pronouncement, in a language of which Dr. William Petty was ignorant;⁷ still, in most cases, it is easy to identify such names with modern places. The originals of those maps or fac-similes of his tracings are now preserved in manuscript in the Record Office, Dublin. From a careful examination of those maps, we present the following statement.

Within the limits of the large barony of Mariborough—coloured red—on Dr. Petty's map of the Queen's County, appear Shayne Castle, Knockangrogh, Shraghboe, Rathnamana, Little and Great Burres—apparently applied as the names of rivers flowing northward to the Barrow,—Burres, Kilminie (a castle), Cloneehur, Gurtins, Cloanrath, Commons, all lying north of the town of Mariborough. Killealy, (Kilteale), and Dunam, (Dunamase) Castle eastwards of the latter town, and south-eastwards lie Kilmanbane (Kilcolmanbane, a church), Cappanly B: charnan and Ballyknockan. North-westwards of Mariborough town lie Clonagh, Ballyfin (a castle, with woods and mountains to the north), Camboan and Errie, written over a tract of bog. South, south-west, and west, of Mariborough town, lie Red Castle, Mountraths with a town and church (Cloneagh), Dysertbeagh (a church), Iron Mills, Cloneheane, Cloanadogas, Roscoltean, Killeany, Bnolie, (the last four castles) Cromoge, (church), Cappabegkinny, Tineilly, Culty, Cappanalogie, Scotchrath. Four detached tracts of bog, three streams flowing into the Nore, and a wood in the extreme southern angle, are all the additional features represented on this map.

On the Petty Down Survey Map of the Queen's County, constructed some time between the 11th of December, 1654, and March, 1656, we find represented within the barony of Stradbally limits—coloured yellow—Moret Castle, and near it Kinenchy—apparently a castle—in the north-west angle. A nameless object—apparently a castle—still nearer the north. Another nameless object—apparently a castle—on the west. Towards the south are Tymoge, Cloghpook, Thomacavan; and on the east, within a dotted boundary are Inchy, Munifarick, Garrans, Baune, Balliekilkavan, Blackford, Cardone, Drumin, Balliduffe. The remainder of this barony is blank and featureless.

Within the limits of the barony of Cullinagh—coloured green—on the map of the Queen's County, the following castles appear on the west and south: B: gegill, Balliroan, Sampson's Court, Ballinekill with its town; the other places named are Cashill, Balliruan, Cnrbin, Clonecullan, Balliroan, Raginbrog, Ballinlogh, Rathmoyle, Tundnffe, Balltarsney, Boyley, Cloneheane, Abbeyleix, Clohoge, Ballemullan, Ralish, Clonekeen. Two streams and four detached bogs appear on the western side of this map; all the eastern division is blank; whilst in the extreme north, B: Gormill is named.

Within the limits of the barony of Slewmargin—coloured green—on Dr. Petty's map of the Queen's County, we find Killebbane and Killeslin represented as churches; Ballinagall, Crottintegall, Shroule, B: moyes and Curragh represented as castles. The other denominations are, Rahaspuge, Dunnan, Ballinslatty, Farran, Coolenowle, Clonborkan, Gurtins, Tirernan, Clonagh, Rosnagh, Killyney, Ballirabin, Shiagh, Cuday, Towlerton, Garindenny, Shronle, Rosnelig, B: horner, Capandinrosse, Leagh, Haristowne, Sleatie, Garough, Sleatie,

Clonemore, Ballaghbkilla, Dinny head, Old Dorock (old Derrig), Rosmore, and Ballihid. The Diny fl. (a river) is shown and several clumps of trees, scattered over the western half of the map, which is subdivided into five districts.

The Irish maps of Sir William Petty were published by George Grierson in 1683, from the original copper plates, which were furnished by the Rt. Hon. Henry Earl and Baron of Shelburne, Viscount Dunkeron, &c. Among these is a plate representing the Queen's County, as reproduced from the original traces, now to be seen in the Irish Record Office. On the engraved map are to be seen the boundaries of the following eight baronies:—viz., 1, Tenehinch; 2, Portuehinch; 3, Mariborough; 4, Stradbally; 5, Upper Osserey; 6, Cullinagh; 7, Balliadam; 8, Slewmargin.⁸ Large spaces on this map are left blank, and by this is to be understood, that such portions were unforfeited; while those denominations in the large type denote parishes or towns. The sites of churches are marked by a small turret, with a cross placed over them; the sites of considerable towns or forts are represented, for the most part, by small turrets, with a spire or parapet surmounting each one; while the sites of the chief houses are distinguished by a small and simple cube. No roads are to be found marked on this map; but the courses of the Barrow, Nore, and a few of the principal streams, their tributaries, are to be traced. Only on the west are given indications of mountains to designate the Slieve Bloom range. Various tracts of bog are denoted by thick dots over their surface. A number of scattered trees are noticeable, chiefly among the Slieve Bloom and Slewmargin mountains, or within the barony of Portuehinch; and hence we may safely draw the conclusion, that those districts were the most thickly wooded, in the middle of the seventeenth century.

1. Teuehinch. To omit many of the less distinguished local names, within this district are noticed Kilmanvan and Reyrmore churches; Castlebrack and Mountmelick towns; with the houses Shradufe, Killen, and Tenehinch; Lough Lane is also shewn towards the northern boundary.

2. Portuehinch. On the map for this division are shewn the churches of Lea, Portuehinch, Kilnecrassagh, and Coolebane; the castles are Mancland, Killmullin, Ballibritts, Ballitegduffe, Balleallenbeg, and Coolebane, besides one which is nameless, but lying between the present Coolbanagher old church and Moret Castle; the chief houses are Ferehogher and Imoe.

3. Mariborough. The only churches shewn on this district are at Mountrath—in reality at Clonagh—Dysertbeagh, Cromoge and Kilmanbane; the chief towns and castles are Mariborough, Mountrath, Shayne Castle, Kilminie, Dunam Castle (Dunamase), Ballaknockan, Ballifin, Cloanadoga, and Roscoltean; the houses here distinguished are Killeany and Bnolie.

4. Stradbally. On this barony map are only noticed Moret, Kinenchy, and another castle which is nameless, but it seems to represent Ballymaddock, owing to its position.

5. Upper Osserey. On the map of this large division, containing many denominations, the following churches are distinguished, Erris, Churchtown, Aghavoe, Downaghmore, Killen, Aghamart and Durrow; the following towns or castellated houses are to be seen, Castletowne, Mondrehid, Belagmore, Kildill, Tenter, Downaghmore, Cooledey, Rathpip⁹, Balligrahin, Rosdereagh, Banahery, and Archerstown; the chief houses noted are, Clonecune, Clonin, Mamen, Muncultipenan,⁹ Lismore, Carran, Killadowell, Bordwell, Castlecruftin, Ballibuggy, Gragadisly, Cullyhill, Carrorea, Ballenkeale, Fermoy, and Agharny.

6. Cullinagh. On this district no churches

¹ To this is added the observation, "nbi Eskir-rieda se obivum offert."—Roderick O'Flaherty's "Ogygia," pars iii., p. 314.

² Such is the account in that copy contained in the "Book of Lecan," fol. 239, p. 6, col. 1.

³ See "Transactions of the Royal Irish Academy," vol. xvii. Antiquities. No. iii. On the History and Antiquities of Tara Hill. By George Petrie, Esq., R.I.A., M.R.I.A., p. 230.

⁴ Facing p. 152, is an engraving, plate 7, showing the Monuments of Tara Hill, restored from ancient documents. On this, too, is shown the position of the five roads, that of the Slighe Dala alone, extending southwards. The Slighe Mhor is represented as taking a western direction. See *ibid.*

⁵ It is appended to "Letters containing information relative to the Antiquities of the Queen's County, collected during the Progress of the Ordnance Survey in 1858," vol. ii. This manuscript volume is now preserved in the Library of the Royal Irish Academy.

⁶ A copy of the ancient map, and coloured after the original, is to be seen there also. See *ibid.*

⁷ He was born at Rumsey, in Hampshire, 26th of May, 1623, and he died Sir William Petty, December 16th, 1687, aged 64. See Alfred Webb's "Compendium of Irish Biography," pp. 435 to 437.

⁸ The spelling of places as found on the map has been retained in this description given in the text.

⁹ Near this word, Road, occurs. It seems to have led in the direction from Rathdowney northwards towards Ballaghmore Castle.

are marked, but Ballinekill and Sampson's Court are distinguished as fortifications, as also the following houses, B: gegill and Balliroan.

7. Balliadams. Within this barony are the following noticed churches Kilmacready, Donrin, Tankardstown, Killebhan; the following fortified places Milltown and Monksgrange; as also these houses of mark, Balliadams, Cronagh, Balliduffe, and Ballilehan.

8. Slewmargie. On the map of this district are represented the churches of Garindenny and Killeshin, with the castles of B: moyes, Monksgrange, Tirernan and Killeshin; also the noted house of Shroule.

(To be continued.)

ST. MICHAN'S ROMAN CATHOLIC CHURCH, DUBLIN: ITS HISTORY, PAST AND PRESENT.

(Continued from page 189.)

THE new chapel in Anne-street (the foundation of which was laid in 1810) was opened for divine service in 1814, and the old chapel in Mary's-lane was converted into a school-house for the use of the parish, to which use it was applied for many years afterwards; but subsequently it was converted into a tenement house.

The Boundaries of St. Michan's Parish.

In 1707, when the parish of St. Michan was divided into three new parishes—St. Paul's on the west, and St. Mary's on the east—the name of the old parish was still retained in the central portion of it until the year 1890, when another new parish was formed out of it, of which more hereafter. The parish is somewhat in the shape of a parallelogram, and was bounded on the north by the River Tolka, from Drumcondra Bridge to Glasnevin Bridge; on the south by the River Liffey, from Whitworth Bridge to Arran-street, East; on the east, from Drumcondra Bridge and Road, Dorset-street, Bolton-street, Green-street, Boot-lane, and Arran-street, East, all on the west side; and on the west from Whitworth Bridge, along Church-street (east side), Constitution-hill, Broadstone, Phibsborough-road, and Glasnevin-road to the Tolka at Glasnevin Bridge.

It is noteworthy that since the formation of the civil parish of St. George, in 1797, and the subsequent erection of the new parish Church of St. George (see IRISH BUILDER for 15th May and 1st June, 1892), and the building of the new chapel in Anne-street, that very great improvements have been simultaneously effected in the northern portion of St. MICHAN'S parish, containing a very considerable portion of the civil parish of St. George. Again, in 1867, other vast improvements were made in the central part of this parish by opening new streets, and building thereon new houses, from Berkeley street to Blaquiore Bridge, in a district formerly occupied by kitchen gardens; viz., Berkeley-road, Upper Berkeley-street, Fontenoy-street, Geraldine-street, O'Connell-avenue, Providence-terrace, Sarsfield-street, St. Joseph's-terrace, St. Laurence-place, St. Vincent-street, Thomond-terrace, &c. And on the North Circular-road (rere of Mater Misericordiae Hospital) the following new streets have been made and built upon:—Crozier's-terrace, Derrynane-parade, Erin-terrace, Innisfallen-parade, Killarney-terrace, St. Joseph's-terrace, St. Mary's-terrace, St. Omar's-terrace, St. Teresa's-terrace, Sinnott-row, Valentia-parade, &c.

In order to accommodate this new thickly-

populated portion of the parish, a temporary wooden chapel was erected in 1870, on the east side of Berkeley-road, which served as a chapel-of-ease to Anne-street chapel; but that temporary wooden structure had been replaced in 1880 by the present new church, which is dedicated to St. Joseph.

Succession of Parish Priests of St. Michan's, from 1814 to 1890.

1814-1824. CHRISTOPHER WALL,

The last pastor of old Mary's-lane Chapel, and first of Anne-street. He died in 1824.

1824-1827. EDWARD ARMSTRONG, D.D.,

Translated from St. Mary's parish. He died 15th May, 1827.

1827-1838. PATRICK COLEMAN, D.D.,

Vicar-General of Dublin, until his death, 25th May, 1838. An elegant monument is erected to his revered memory near the epistle side of the high altar.

1838-1852. PATRICK J. DOYLE, D.D.,

Whose family have been of long standing in this parish. He died on the 12th Dec., 1852, having made a splendid bequest to his Grace Paul Cullen, Archbishop of Dublin, for the benefit of religion and charity.

1852-186-. JOHN HAMILTON,

Archdeacon of Dublin, and for a long period the administrator of St. Mary's parish.

186- -1890. JAMES McMAHON.

1890. ROBERT F. CONLAN,

Translated from St. Mary's parish, where he had been administrator for several years.

After the death of Canon McMahon, the old parish of St. Michan—which so largely increased in size and population after its first division in 1707, and during the administration of Dr. Nary—was again divided in 1890, and a new parish is now formed, known as the parish of St. Joseph, having the new Church of St. Joseph, Berkeley-road, as its parish church, and the Rev. F. Ryan as its first pastor.

The Rev. Father Conlan is the first P.P. of the new parish of St. Michan, which has been formed out of the old parish. It contains about half the area of its original size, and has been somewhat extended on its eastern side by the addition to it of Ormond-quay, from East Arran-street to Grattan Bridge; Capel-street (east side), to its original boundary at Bolton-street. This latter addition includes Little Strand-street, St. Mary's-abbey, Little Mary-street, Little Britain-street, and the west side of Green-street.

(To be continued.)

EXCURSIONS OF THE ROYAL SOCIETY OF ANTIQUARIES IN THE NORTH.

ON the afternoon of the 16th ult., the members of the Society accepted the invitation of Sir Daniel Dixon, Lord Mayor of Belfast, and Lady Dixon, to a garden party at Ballymenach House, near Holywood. The Corporation records, maces, seal, and chains of office were on view, including the first mace of the Corporation, dated 1639, presented by Henry Le Squire, Seneschal of the Manor, and sovereign of Belfast. The second mace was made in the reign of Charles II., which is pronounced to be the finest provincial mace in Ireland. The first charter dates from 1613, and there was another from George II., and the two recent charters to the city and the Lord Mayor. There was also a finely embroidered cushion with the arms of the Corporation. There was an interesting old gold chain, presented by the Earl of Donegall in 1705, with his arms and also that of the city.

A very pleasant afternoon was passed under the generous hospitality of the Lord Mayor, and a warm vote of thanks to him and Lady Dixon was proposed by the Rev. George Buick, Vice-President of the Society, to which the Lord Mayor replied.

BELFAST FREE LIBRARY.

On Wednesday morning an early visit was paid to the Belfast Free Library, where the splendid collection of antiquities, lately presented by the Rev. Canon Grainger was specially placed on view, as they are not yet completely catalogued. These included encaustic tiles from Christ Church and St. Mary's Abbey, Dublin, an ancient altar from the Church of Connor, County Antrim. There were also the remarkable Lisnacrogghera collection, comprising spear heads, paddles, and many other wooden relics. Other objects of interest were sword scabbards, rings, beads, fibulae, pins, pottery, an otter trap, wooden vessels, bronze pots, &c. The collection is a splendid tribute to the memory of one of Belfast's most generous sons, and the beginning of what, it is to be hoped, will prove a museum of Irish antiquities second only to that of Dublin.

CARRICKFERGUS.

A large contingent proceeded by special train from the Northern Counties' Railway to Carrickfergus. A visit was made to the town-hall, where the charts, seals, and mace were shown, which had been fully described the previous day by Mr. J. Vinycomb. At the Castle the members were received by Lieutenant C. L. Robinson, who is now in command, and who received special permission from the War Office to admit them, as the Castle is now a Government district store. The Castle was thoroughly examined, and from its embattled summit the magnificent view of Belfast Lough, forming one grand panorama of sea and land, was much admired.

Carrickfergus takes its name from the rock on which its castle stands—Carraig Feargusa, or the Rock of Fergus, from a king of that name who was drowned near the spot in 320 B.C. The castle is most picturesquely situated 30 feet above the waters of Belfast Lough, and is the finest specimen of the Norman stronghold now existing in Ireland. A drawbridge formerly led to the entrance; the strong gateway still exists, within which was the portcullis, both having apertures for discharging missiles. Within are two yards with batteries for cannon, barrack accommodation, erected in 1802, and the fine central square tower or keep 90 feet high, with walls 9 feet thick, and divided into five storeys. The ground storey forms the magazine, and the third storey is called Fergus's diningroom. The whole was once used as an infantry barracks, but is now an armoury. By an act of the 14th century, the government of the castle was long confined to Englishmen. Within the walls is a deep draw-well, long used for its chalybeate qualities, but recently it was found that, so far from these being natural, they were due to quantities of nails and old armour which had been cast therein.

Carrickfergus formed a county by itself, independent from the jurisdiction of the County Antrim. Tradition ascribed this to king John, but no charter of its incorporation as a county is known before the 11th of Elizabeth, though other documentary evidence of it exists.

John De Courcey having received from Henry II. a grant of all the land he might take in Ulster, proceeded thither with 700 men. He built a small fortress on the Rock of Fergus, which became the nucleus of the present pile. De Courcey's possessions and strongholds fell subsequently into the hands of the De Laeys. They too, became obnoxious, and were expelled by King John. They returned again, to be once more driven out by Lord Justice Mortimer. They then fled to Scotland and asked assistance of Edward Bruce, who obtained the consent of the Scottish Parliament to invade Ireland. He embarked from Ayr at the head of 6,000 men, landed at Oldfleet, defeated the Earl of

Ulster in battle, and then besieged Carrickfergus. He met with a most obstinate resistance, and only surrendered when every morsel of food had been consumed, after having eaten, it is said, thirty of Bruce's men whom they treacherously made prisoners of. In 1333 Hugh de Burgh, the governor of the castle, was murdered by his own servants. In 1387 the town was taken and burnt by the Scotch. In 1555 the castle was besieged by the Scotch, but was relieved in the following year by Sir Henry Sidney. The English held possession of it throughout the whole of Tyrone's rebellion; and, during the Parliamentary wars, it was alternately in the hands of the English, Scotch, and Irish. In 1688, Lord Iveagh held it for James II.; but in the next year it was besieged and taken by the Duke of Schonberg. In 1690 William III. landed in Carrickfergus on his memorable expedition, and a large stone at the foot of the quay bears his name, as being the spot where he first set foot in Ireland. In 1760 Carrickfergus was attacked by Commodore Thurot at the head of 1,000 men. The Castle made a gallant resistance, though weakened by a breach towards the sea fifty ft. wide, and defended by about 200 men, but capitulated finally with honourable terms. This event was the origin of the Irish Volunteers. One interesting incident occurred in High-street as the French were advancing. "A little child ran out playfully into the street between the contending parties. The French officer, to his honour be it recorded, observing the danger in which the little boy was in, took him up in his arms, ran with him to a house, which proved to be his father's, the Sheriff, and having left him safe, returned to the engagement. This brave and humane man was killed at Carrickfergus Castle gate." A visit was next made to the parish church, anciently that of St. Nicholas' Within. The present building is irregular in style, and is 44 yards long. There is a stained glass window in the chancel, and two others, one having been brought from Dangan Chapel, Co. Meath. The north transept contains the fine monument of the Chichester family, with effigies to Sir Arthur Chichester and his wife, the daughter of Sir John Perrot, and their infant baby, who died at the age of six weeks. Immediately below is the figure of Sir John Chichester, who was captured by James MacSorley MacDonald, Earl of Antrim, and beheaded on a stone at Glynne. The monument resembles that of the Cork monument in St. Patrick's Cathedral, Dublin, and is of alabaster, with marble columns. It was once whitewashed, and remains of the old colouring are still to be seen, the tomb being now in its original state.

The Franciscan Monastery, to which the present parish church belonged, is said to have been founded about the middle of the thirteenth century by Hugh De Lacy, or by O'Neill. In 1408 Hugh MacAdam MacGilmore, who is said to have destroyed 40 ecclesiastical structures, fled there for refuge, and was assassinated by English colonists named Savage. At the dissolution of the monasteries, it passed to Sir Edward Fitzgerald, and from him to Sir Arthur Chichester, who erected on its site the castle of Joymount. A leper hospital once existed in Carrickfergus, from which Spital Park took its name.

LARNE.

The party took their departure at midday to Larne, and at once viewed the gravel beds, where a number of worked flints were picked up, and much information elicited from the experts on flint weapons. Ferry boats took the large party across the lough to Island Magee, which derives its name from the family of Magee. It was leased by Elizabeth to a follower of Essex named Savage. A fine cromlech, consisting of one flat stone on four uprights, was visited. Time did not permit to reach the Gobbins, a range of cliffs two miles long and 200 ft. high, each stern and precipitous, on the eastern coast. It was here that on January 8th, 1642, a party of military from Carrickfergus, then governed

by Colonel Munro, came and massacred thirty of the inhabitants, and are usually said to have thrown them over the Gobbins. Few incidents in Irish history have called forth fiercer discussion. The depositions relating to it are in the Library of Trinity College, Dublin. Larne stands at the head of Belfast Lough, on the road from Belfast to Glenarm, its situation being exceedingly picturesque. At the head of the adjacent peninsula stands Oldfleet Castle, and stretching far ahead is the fine expanse of the Lough. On the east side lies Island Magee, and on the west the magnificent coast of Antrim, from which rises the precipitous range of the Agnew Hills, 1,500 ft. above the sea. A splendid road runs for many miles right on the mountain edge, with ever-varying scenes of rocky escarpment, projecting promontory, and rapid slopes of the far-famed Antrim glens. On return from Island Magee, the party partook of luncheon at the Oldfleet Hotel. The castle from which it took its name is supposed to have been erected by the Bissetts, a powerful Scotch family, who were granted large possessions in the barony of Glenarm by Henry III. In the reign of Elizabeth, a descendant of the Bissetts accepted the lands, under the conditions that he was not to carry arms under any king but a king of England, and to pay an annual tribute of hawks and cattle. The Gobbins' Cliffs were famous for goshawks. The castle was important in the feudatory warfare between the Irish and the Scotch. It finally fell to Sir Arthur Chichester.

After luncheon the members drove to Ballgally Head, near which are the remains of a castle on a mass of rock rising from the sea, sometimes called O'Halloran's Castle. There is a tradition that it was erected by an ancient prince to protect his daughter from an unwelcome suitor. But "love laughs at locks," and it supplied wings to the lovers, and the fair one was borne away, whether over sea or land tradition does not tell. A fine specimen of an Elizabethan mansion stands near, in the castellated style, with round projecting turrets. Mrs. Porter kindly gave permission to visit, and the members walked with much interest through its tastefully kept rooms, with their low ceilings, deeply bayed windows, and quaint nooks and corners. Over the kitchen doorway is the motto, "God's providens is my inheritant," dated 1625. In the study is a fairly carved stone, with the arms of the Shaw family, to whom it belonged. Near Larne stands the fine modern mansion of Cairn Castle, the residence of Mr. Clark, of Paisley, where the party stopped on the kind invitation of Mrs. Clark, to afternoon tea. The grounds are magnificently planted with shrubberies, and the view from the lawn is one of great beauty.

In the centre of a fort at Larne is buried the late Mr. Chaine, who, according to his wish, was placed upright and facing the sea. A fine modern round tower on a projecting spot of land has been erected to his memory.

On leaving Larne, the sun was sinking like a magnificent shield of burnished gold, bathing masses of lightly-flecked clouds in fiery hues, and dying off in purple tints into the deep cerulean zenith above. The whole lough was ablaze with a flood of red and golden light, which no pen could paint, while the shores threw back their shadows like a purple pall in glorious contrast. But the shadows slowly gathered over sea, land, and sky, and as the sun sank below the distant hills to his slumbers, the visitors too ceased from the pleasurable pursuits of an eventful day.

DUNGIVEN WATER SUPPLY.

At the weekly meeting of the Limavady Board of Guardians on Monday last, an estimate of the costs of the Dungiven water-works scheme was received from Mr. L. L. Macassey, C.E., Belfast, in which it was stated that the cost of works would be £820. This sum did not include law costs, compensation, or fees.

A brief discussion followed concerning the

above, in the course of which Mr. Tyler said that he was satisfied that any estimate from Mr. Macassey was reliable, and that it would cover the probable expense.

In reply to Mr. Given, the clerk said the sum mentioned included what would be paid to the contractor only.

Mr. Tyler remarked he believed they might be certain that any work done by Mr. Macassey would be satisfactory. The sum named was reasonable, and he would propose that Mr. Macassey and their solicitor be instructed to take the necessary steps to bring the matter before the Local Government Board, with a view of borrowing whatever money would be required.

The Clerk said Mr. Wilson told him that, from what he read in the Act of Parliament, the guardians might not make application till the 1st October.

Mr. Tyler—That gives us a very small margin. In order to have all ready, there is not a day to be lost.

The Clerk—It is not binding on you to make application till the 1st October.

Mr. Tyler—I propose that Mr. Macassey be appointed engineer for the carrying out of the scheme.

Mr. Sherrard—What about the charge?

Mr. Tyler—They have the ordinary charge of 5 per cent. on the contract sum. That covers everything, and is a very reasonable charge. Perhaps it is better, for the information of the guardians, to ask that the charge be stated; but I think we will be quite safe in appointing him.

The Clerk—If you want to save time, you might appoint him, subject to his accepting at 5 per cent. on his own estimate.

The Clerk's suggestion was unanimously agreed to.

GOYERS FRÈRES' FAMOUS STUDIOS AT LOUVAIN.

OUR readers may remember Mr. Harry Hems' description, in these columns, of the Society of Architects' tour in Belgium last summer, and especially of their visit to Louvain and to the celebrated wood-carving establishment of Messrs. Goyers Frères, reputed to be the longest established, and largest studios in the world. They were founded in 1784 by the great-grandfather of present representatives, and have long done a business that has its connections with all parts of the Christian world. It was therefore a matter of surprise to everyone to hear that the whole of the immense stock and art collections of a century was announced for sale by auction. According to a printed catalogue issued, the sale was to have taken place on the 30th of last month. It is now, however, arranged that the models, &c., will be disposed of by private treaty up till the 10th prox. We understand that two of the brothers purpose resuming business after some time. A series of statues in the Church of the Dominicans, in this city; much beautiful wood-carving in the Chapel of the Sœurs de Bon Secours, and the Church of SS. Peter and Paul, both in Cork; and a superb altar at Limerick, are amongst the best examples, in this country, of the work of the distinguished, we had almost said, historical firm.

TENDERS.

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ANCIENT MONUMENTS IN IRELAND.

MANY interesting works, according to the report of the Commissioners of Public Works just issued, are being carried out. Amongst others, the Round Tower of Tullaberrin, County Kilkenny, which was in a dangerous condition, has been repaired. The head of the cross in the graveyard at Kells, which had fallen, has been carefully replaced, and the Round Tower has been pointed and repaired. Some expenditure has been incurred for the preservation of the ancient church and Round Tower at Tulla, near County Dublin. In addition, works have been undertaken or arranged for this year at the under-mentioned places:—Dunbeg Fort, near Dingle; Cahir Parnagorivan; Cloughan More; Cloughan Beg; Glenfaun, Cahir. Particular attention has been directed to the monuments on the promontory of Dingle, Barony of Corcaquiny, which have proved most interesting subjects of exploration. Plans have been made and a report is in hand which only awaits further information for completion. To the west of Dingle, in the Barony of Corcaquiny, are several subterranean cells and forts, the majority of which have been inspected. A stone, inscribed with crosses and Ogham inscriptions, found in one of the cells, is about to be transferred to the museum of the Royal Irish Academy. It is feared that owing to want of funds further exploration of these monuments cannot be undertaken this year, as there is a strong feeling that the money immediately available should be devoted to an exhaustive examination of the mounds on the Hill of Tara. Inquiries are being made from the best authorities as to the most satisfactory way of carrying out this work.

NEW STEAMER FOR IRISH LIGHTS BOARD.

THERE has just been launched from the ship-building yard of Messrs. William Allsup and Sons, Limited, engineers and shipbuilders, Caledonian Works, Preston, a steel twin screw steamer for the Irish Lights Board, Dublin. The vessel is built entirely of steel, with double bottom and several water-tight butt-heads. Length between perpendiculars, 180 ft.; beam, 28 ft.; depth amidships, 16 ft.; load draft, 12 ft. She will be fitted with compound engines and steel boilers to carry 110 lbs. pressure, and she is to steam 12 knots an hour. She will have powerful steam cranes and winches for working at wrecks, buoys, &c., and will have accommodation for light-keepers and their families when being changed from one lighthouse to another, which occurs every three years. The officers' quarters are large, and will be fitted with every convenience. There will also be a special saloon and sleeping cabins for members of the board and staff officials. The carrying capacity of the vessel will be about 150 tons of cargo, and 100 tons of coal. Every modern appliance has been adopted, and it is expected that she will be one of the finest fleets of steamships in the three lighthouse services of the United Kingdom. She is a very handsome model, and reflects great credit on the designer. The christening ceremony was performed by Mrs. A. Knox Galway, and as the vessel left the ways, amid the cheers of the assembled friends of the builders and owners, she was named the *Tearaht*.

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The Irish Builder.

NOTICE.

All communications for the literary department of this journal should be addressed to "The Editor."

Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42 Mabbot-street, Dublin, whose receipt alone is recognised.

It is to be distinctly understood that although we give place to letters of correspondents, we do not in all cases subscribe editorially to the opinions or statements set forth in same.

It is respectfully requested that all parties indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

We shall be glad to receive notes of works in contemplation or in progress in town or country.

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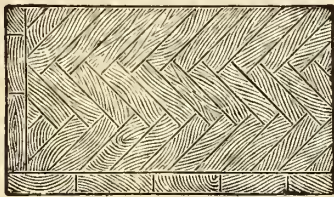
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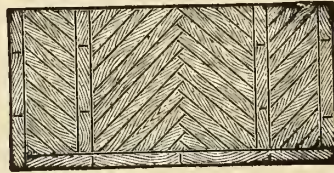
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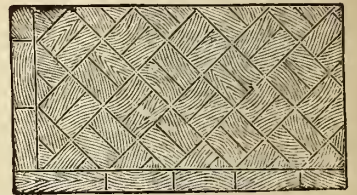
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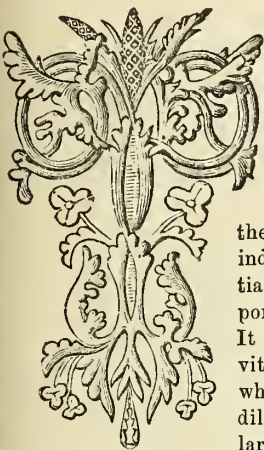
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HEALTHY HOMES,
AND PURE *VERSUS* IMPURE AIR
THEREIN.*

THE atmosphere which surrounds the earth is an invisible elastic fluid, and is composed of oxygen and nitrogen—the former being an indispensable essential and the main support of respiration. It is therefore called vital air, and, only when the oxygen is diluted with a much larger proportion of

nitrogen, is it rendered suitable for this purpose. It also contains carbonic acid and water in a state of vapour; but these latter are developed so infinitesimally as to be scarcely recognisable. Therefore, when the air is thus free from foreign admixture, it is one of the principal factors in the hygiene of life; but atmospheric air is frequently the vehicle of contagion, arising from different causes; therefore, breathing impure air is oftentimes the precursor of disease, which may linger in the system for a while unnoticed, but at length causes distressing consequences, which may eventuate in death. Foul odours, from whatever cause arising, should never be neglected, than which few essentials to health are more habitually disregarded. There are some people whose olfactory powers are not of the most susceptible nature, or, perhaps, little by little being habituated to foul odours, find it impossible in their inception to discover them, and until they have increased into such offensive character as to be distinguishable by all, they are disregarded until they can no longer remain unconscious of their presence. Nevertheless, the mischief is still progressing; therefore, the slightest leakage of sewer-gas, as soon as discovered, should be attended to with all promptitude. Even in first-class houses, built in former years, we find the scullery-trough still delivering itself into the main outfall of the house-drain, and forming a direct medium of conveying the sewer-gas throughout the entire building.

A few years ago, it was never thought necessary to form foundations under sewer-pipes, than which nothing is more absolutely necessary, as, laying them in excavations without this precaution, they are liable to settle down and possibly cause leakages, which, permeating through and saturating the substratum and remaining there, must produce offensive odours within the house, while the occupant remains in total ignorance of the cause. Therefore, in all cases they require a good thick bed of concrete, laid with the necessary falls underneath, into which the nozzles of the pipes should be inserted, so that each length shall have

proper bearing. Boarded rooms in basement storeys are generally a primary source of impure air, as in former times they were invariably laid within a few inches of the earth without any precaution whatever being taken, and as the earth, being permeable, is ever giving forth exhalations, while foul air, being of greater density than pure air, is always in connection with it, thus giving out an earthy flavour, if not worse. When expanded by the warmer atmosphere of the apartment, it ascends, and, if it finds no outlet, again descends, where, being joined by the foul air expelled from the lungs of the occupants, it is breathed over again by them. The remedy for this would be, to have the boarding removed and the entire space underneath covered with concrete, and again relay the boarding. Outer sink-traps, in warm weather, are frequently the media for the conveyance of impure air, as the water which seals these traps becoming evaporated, there is direct connexion with the sewer and its noxious gases. We have read somewhere, that calcium chloride—better known as chloride of lime—put into the traps retards this evaporation, but we cannot place much faith in its efficacy, and would recommend constant flushing with water instead.

Soil-pipes through the interior of a house should always be avoided, as the most infinitesimal leak in them will permit the egress of foul air, and possibly permeate through the entire house, while the occupants remain in blissful ignorance of the cause. The w.c. and slop-basin should ever be in such position as to enable the soil-pipe to be at once carried into the open air.

With regard to the artificial lighting of a house, gas is very good in its way for halls, passages, and apartments where the occupants do not usually congregate; but for rooms used for assembly of the family and visitors, nothing can be more deleterious, unless sufficient provision is made effectually to change the air, as it can easily be understood how highly contaminated it must become in the apartments of an ordinary dwelling, when subjected to the influx of a number of visitors, unless sufficient provision is made for the above purpose. As each burner of the gas exhales as much carbonic acid gas, and consumes as much oxygen as each person present, and as the respiration of each individual has the effect of withdrawing a pint of air at every inspiration, often more, in coughing, singing, or unusual exercise, and then exhaling a corresponding quantity, one-half of which is carbonic acid from the lungs and derived from the blood, which, when afterwards inhaled, amounts to slow poison.

Large assembly-rooms are easily ventilated, as being most generally lofty one storey apartments, where ventilation through the roof is readily obtained. But this does not apply to the ordinary private dwellings. We would, therefore, recommend that a 3-inch or, for the larger apartments, a 4-inch earthenware pipe should, in building new houses, be carried up with the brickwork, close to each flue, with an outlet between the ceiling and the floor, which can be easily continued to the centre of each apartment by a metallic tube, where it can be covered by a perforated centre. This will be found much more desirable in practice than utilizing the smoke-flue for ventilating purpose; and, in new buildings, the cost will be so trifling as not to be worth consideration, and it will be found much more desirable in

practice, as avoiding the liability of the outlet becoming choked by soot when the flue itself is made available for this purpose.

The modern cast-iron ventilators placed over main sewers for admitting fresh air, frequently have a contrary effect, by allowing sewer-gas to escape; and, as foul air is always heavier than the surrounding atmosphere, it remains near the surface of the ground, until removed by an increase of temperature or a light breeze, either of which will diffuse it around. They are to an extent useful, but in large towns we would prefer to see as auxiliaries a few tall chimney-shafts erected upon the highest levels, with furnaces attached, and placed in connexion with the sewers, which would effectually draw off the impure air, and render it innocuous.

Thanks to our modern Corporation and Township bye-laws, which provide for the removal of ashpit refuse, but which, we regret to say, is not more generally availed of, as the collection and concentration of vegetable and other decaying matter in ashpits in close quarters, and often in near proximity to dwellings, is productive of a serious addition to the impure air which occasionally surrounds them, and we would be glad to see its being made imperative upon all, that they should make use of the facilities provided for them.

ANDREWS' ELECTRIC LIGHT
WIRING.

Now that electric lighting has become almost a recognised essential of the fitting and furnishing of all good houses and buildings, any improvement on, or substitute for, the common methods of wiring in wooden casings, will be studied with interest; and in this article we wish to introduce to our readers a new system known as Andrews' Wiring, which is now being largely introduced, especially into buildings of fine architecture, as, for instance, the chapels and dining-halls of several of the Cambridge Colleges.

To fully explain the merits of this system, we must enter a little into the subject of wiring buildings generally.

The principal features of a wiring installation are: (1) Ample capacity of conductor for the current, to avoid heating; (2) Prevention of leakage, by adequate insulation and conduction; (3) Mechanical protection of the insulation and conduction; (4) The retention of the two wires rigid in relation to one another, to avoid contacts and short circuits; (5) Protection against the rupture of the conductor by distortion of the wood-work, &c.; (6) Also against the effects of moisture and rot, which renders wood-casing a partial conductor, and liable to become fired by the heat of the leakage current; (7) Protection against the attacks of rats and mice;—all of which are most essential considerations for safety against fire.

The methods in general use with wood-casing, now well known, meet many of the above eventualities; but they fail to touch those numbered 5, 6, and 7, and the others are so ill-met that a protecting device known as the cut-out or fuse, is brought extensively into use. For dry places, such as the inhabited parts of buildings, there is little to be feared from the defects of the wood casing method; but for use in cellars and like places, or in factories where damp processes are carried on, and for burying in the walls and floors of buildings, the wood-casing system is always liable to one or other of the

* By WILLIAM HUGHES, Author of "Geological Notes of Ireland," &c., &c.

above-mentioned derangements; and although special precautions may be taken by the use of the best wood and careful painting, it is impossible entirely to remove the defects of the system. There is, for hidden wiring, a substitute for wood-casing in the form of cement, which has the advantage of not being attacked by rats, and is incombustible in the event of fire.

The main object of this article, however, is to bring forward a later system of wiring; and we are unable to offer any better suggestions as regard the wood-casing system than are given in the rules of the insurance companies. Andrews' Wiring is quite distinct from the latter, and it meets the above-described eventualities in every respect; while at the same time it introduces very great advantages in the direction of simplicity, durability, and cheapness. It consists of a copper conductor, covered with insulation, and surrounded by another conductor, which is usually of iron wires galvanised. In this form the wires may be buried in the plaster of rooms or under floors, and is perfectly safe in damp places. When it is required, copper strand, copper braid, copper tape, copper strand sheathed with lead, copper tube, brass tube (fancy or plain), or iron tube, many of these can be made to lend themselves very effectively to decorative purposes, and their extreme compactness as compared with wood and other casings allow any of these varieties of wire to be easily masked by existing cornices or mouldings, or they can be run in the walls and ceilings with the same facility as gas-piping.

The secret of the success of this system is in the patent method of jointing, by pouring a fusible metal into a removable mould around the insulated joint of the central conductor, thus making the outer conductor (which was in the first place cut away to make the joint) perfectly continuous again. The outer conductor is necessarily of very much larger cross-section than the central one, and consequently it forms a substantial protection against the attacks of rats, moisture, or any other of the derangements that wood-casing is subject to. The result of this is, that cut-outs or fuses are only required to a group of lights of say 12 of 16 c. p., the number being governed by the size of the wire, thus:—If the group of lights is 12 to a fuse, the smallest wire must be of 15 S. W. G., it being found that this size does not heat more than 10° C. with the current at which the fuse melts.

The system is carried out completely in every detail as regards switches, fuses, fittings, with joints, ball and socket pendants, &c. At the point of attachment to the fitting, the wire is usually jointed to a wall socket, screwed to receive the fitting. This socket has a central contact imbedded and recessed in a special substance resembling stone, in connection with the inner conductor of the system; a spring contact on the fitting makes connection with the central wire of the fitting, and so with the central contact of the lamp. The metal of the lamp cap, fitting, and wall socket form the return to the outer conductor. The wall sockets are made of uniform size and thread for all fittings up to a capacity of six lights, thus securing a complete interchangeability of fittings.

The switches and fuses are similarly constructed, so that the case forms the continuation of outer conductor, and completely en-

closes the mechanism. The break is, of course, in the inner conductor, the switch being single pole. It is of the Andrews' patent design, and has novel and excellent features; it is of a quick break type, the break being two-fold, and quite independent of the operator. The fuse-boxes are made to take a fuse-plug of special design.

The artistic design and general construction of the electroliers, brackets, and pendants are the same with this wiring as with the two wire system; but very much greater facility is given for carrying out the mechanical details of the joints, and ball and socket movements. Switches can be readily introduced into the fittings; and the wiring of the latter is much simpler, and more substantial and permanent; and it is arranged so that the fittings can be readily detached from their fixings, and re-erected by unskilled hands. Altogether, every detail of the wiring, switches, fittings, and appurtenances, has been worked out and fitted into a complete system, having the same substantial and simple character that we are accustomed to in gas.

It may further be added that the system has been specially designed to enable those who have been accustomed to gas-fitting, to undertake electric lighting by its adoption. In only one point is skill required—which is, in making the joints—in other words, no special knowledge of switches, fuses, fittings, or other electrical appliances is required; a table of capacities of the wire, &c., is provided; and the erection of a fitting, switch, or fuse, requires only the knowledge of joint-making beyond what a gasfitter is accustomed to; and we are informed that half a day's practice is sufficient to gain this knowledge.

From an architect's or decorator's point of view, this mode of wiring should meet with great favor, from the fact that it banishes the use of the bulky wood-casing, and introduces only a small, but substantial tube or wire, about one-twentieth the size. The system can be seen in use in many parts of London and the country, or at the offices of Messrs. J. D. F. Andrews and Co., 41 and 42 Parliament-street, London.

SCANDINAVIAN HOUSES.

MR. F. W. Crossley, a gentleman who has for some time past been busily engaged in efforts for developing the resources of this country, and providing facilities for tourist traffic therein, draws attention to a class of houses which he recommends for hotel purposes, and which he describes as follows:—

The method of construction of these Scandinavian buildings is most scientific, and their perfect character is the result of years of study and experience. Their walls consist of solid timber combined in several layers most ingeniously tongued and grooved, and closely fitted together; layers of waterproof and fireproof preparations are interposed; risk of fire, therefore, is at the minimum.

The buildings are exceptionally comfortable, and are secured absolutely proof against atmospheric influences. They are also more wholesome and habitable than stone structures, owing to the fact that in them dust hardly exists.

These buildings are picturesque in appearance, and are therefore peculiarly adapted to greatly enhance the scenic attractions of this country.

The cost of the buildings constructed upon the Scandinavian principle, is, in many instances, less than one-fourth the amount

of those built of stone or brick, so that the capital outlay will be comparatively small.

The insurances can be effected at the reasonable rate of about 6s. 8d. per cent., which, when reckoned upon the much smaller outlay, is considerably less per annum than the insurance of ordinary buildings. The average cost of constructing an hotel upon the Scandinavian principle, containing forty bedrooms, in addition to complete suites of all other apartments, is about £3,000, and the annual insurance premium will, therefore, not exceed £10.

The accommodation would be of most modern and approved style, including lavatories, bath-room, offices, drawing, reception, and dining-rooms, bedrooms to suit every requirement, and extensive verandahs in front of the grounds and first floors.

The kitchen, scullery, and laundries would be detached from the main building, communicating by means of a covered way.

As regards warming, the general method would be that of the Continental and Norwegian stoves, or by means of air heated outside the main building; but in several of the principal rooms and bedrooms the ordinary fireplaces would be provided.

The duration of these structures is remarkable, where moderate care is taken of them. Buildings which were erected over fifty years ago are still in perfect working order, situated in climates more trying and variable than that of Ireland.

DEATH OF MR. MATTHEW WYATT.

The following appears in the current issue of the R.I.B.A. Journal:—

"A letter has been received from Mr. T. H. Wyatt, conveying the mournful news of the death, on the 26th inst., after a long illness, of his brother, Mr. Matthew Wyatt, the elder son of the late Thomas Henry Wyatt, President of the Institute in 1870-73. Matt. Wyatt followed his father's profession, and was for many years a Fellow, but after his retirement from practice he applied to be admitted as Hon. Associate, and was transferred to that class some three years ago. The funeral takes place at the church of Weston Patrick, Winchester, in the pretty Hampshire village where the family possess a handsome country residence."

THE BOGS OF IRELAND.

THE trunks and branches of decayed trees are very generally found, in most of the Irish bogs; however, although the wood is perfectly sound, the bark of the timber has uniformly disappeared. The decomposition of this bark forms a considerable part of those nutritive substances which helped growth in the morasses; still, notwithstanding this circumstance, tan is not to be obtained when analysing bogs.¹

Their antiseptic quality, however, is indisputable; for animal and vegetable substances even the products of man's industry, are frequently found, and at a great depth in bogs, without their seeming to have suffered any decay. Many of those substances have been deposited in them, at a very remote period.²

Some of our bogs are evidently of very ancient formation. There are three distinct growths of timber, which have been covered by three distinct masses of bog, as discovered by a careful and scientific examination.³

¹ Such is the statement of the distinguished Irish mineralogist and scientist, Richard Kirwan.

² Under the surface of a bog, and at a depth of 17 ft., woollen coat of coarse but even network was found in 1784 a razor with a wooden handle, some iron heads of arrow large wooden bowls, some only half made, with the remains of turning tools. These are thought to have been the wreck of a workshop, which might have been situated on the border of that bog.

³ According to the Report of the Commissioners on the Bogs of Ireland, published over fifty years ago.

SEWAGE OUTFALL WORKS AT
PORTSMOUTH.*

(Concluded from page 199.)

Discharge Valves.—In order to avoid the necessity of employing very large valves, needing several men to work them, it was found imperative to provide each of the compartments of the tank with as many as three valves; so that, to deal with all the compartments, nine valves had to be worked. As the maximum time during which discharge should take place was one hour, it was obvious that only a few minutes could be afforded for the opening of these valves; for allowing only the very modest time of five minutes for the opening of one valve, the whole of the nine would have required three-quarters of an hour; or, having regard to the shifting from valve to valve, more probably an hour; so that the last valve would not have been opened until the whole time at disposal for the emptying had elapsed.

Turbines.—After the first of these nine valves had been finished and tried at the factory, it became evident that some kind of motive power would be necessary for opening them. Many suggestions were made and considered. Finally a plan was proposed by Mr. Harris, now the writer's partner, which solved the whole difficulty. The principle upon which Mr. Harris's plan is based is that of making the sewage itself open the outlet valves. This is effected by gearing up each of the main valves to a small turbine. Each turbine is provided with a sluice 6in. square, having a spindle carried up above the roof of the tank, finishing in a hand wheel. All that the tank attendant has to do, when outlet time arrives, is to open in succession these nine turbine sluices. As soon as the turbine is in motion, the continuance of the revolution of the sluice spindle, by means of a screw upon it, puts an Addyman clutch into gear with the spindle of the main valve; and the turbine continuing to work rotates through wheel-gearing the spindle of the main valve, thereby lifting the valve. As the valve rises, it carries up with it a horizontal projecting plate, which, on reaching the top, closes the outlet from the bottom of the turbine, thus causing the turbine to cease work, and bringing it and the main valve quietly to rest. The result of this arrangement is that one man is able to open the whole of the nine valves in succession in something less than ten minutes, each of the valves being 4ft. by 3ft. 6in., equal to an area of about 14 square feet. Some doubts were expressed as to whether this plan which seems complicated in description, would work satisfactorily, having regard to the fact that sewage was the operating liquid for the turbines; but the writer is glad to be able to say that from the time of opening the works until now no trouble at all has been experienced. Each turbine is surrounded by a galvanised iron screen, so as to prevent large "flotsam and jetsam" from interfering with the working of the gear. By means of these nine main valves, the outlet culvert, and the pipes, it is possible to empty the whole of the compartments of their contents in something like fifty minutes, or in less time than that shown by the tidal experiments to be necessary; and to do this at no greater cost than the wages of one attendant. For shutting down the valves there is ample time after the sewage has been discharged; the attendant readily closes them, which is a fairly easy operation, as their weight assists him.

Electrical Indicator.—The authorities desired to have the means of assuring themselves from day to day as to the time of tide when the discharge from the different compartments of the tank was commenced; and also as to the duration of the discharge. With the object of affording this information to them, and also to the men in charge of the pumping engines, an electrical indicator was fixed in the enginehouse, which, combined with clockwork, shows at every 6 in. depth

the rate at which the tank is being filled, and then shows the time at which the discharge is commenced, and the duration of that discharge.

Outlet Pipes.—The fixing of the three cast-iron pipes, laid across the foreshore for the discharge of the sewage, was a work of great difficulty, and of some danger, owing to the swiftness of the tidal current, and to the exposed nature of the shore at this point. The mode adopted for securing the pipes is an extremely substantial one, consisting of a series of rows of screwed piles, carrying cross iron supports. The ends of the pipes are protected by a dolophin, constructed of strong wooden piles driven into the foreshore, and surmounted by a beacon, which is used for the purposes of navigation of the entrance channel. Prior to the erection of this dolophin, some fears have been expressed, based upon what had happened to previous dolophins at this place, as to the possibility of any structure being erected capable of withstanding the severe effects of winter storms; but the writer is glad to say that the six years which have elapsed since the dolophin was erected have passed without damage to it of any kind.

Groynes.—The banks of the channel being exposed to very heavy weather, and to the scour produced by the rapid flow of the tide, observation was made as to the effect upon the foreshore in times past; and it was found that in the neighbourhood there had been very considerable movements of shingle sometimes by way of accretion, but also sometimes by way of removal, involving the destruction of a certain sea-wall work that had been carried out there. It was therefore necessary to resort to the use of groynes. These were simply constructed, consisting merely of rows of rough piles and planks: the piles in each row being about 6 ft. apart, while the row is placed at such an angle to the shore as was deemed most advisable. To these piles rough 3-in. deals were spiked, only one row in height being fixed at a time, and this was left until the shingle had collected behind it, when another row was added, and so on; and in this way thousands of tons of shingle have been collected at the back of the groynes to protect the works. It may be mentioned that the collection of shingle is an operation which cannot be hurried, and that any attempt to complete a groyne to the full height at once on this coast at all events, frustrates the object; it must be done little by little.

Main from Pumping Station.—The height at which the storage tank was placed involved the connexion to it from the pumping station being under pressure; and this connexion was therefore made by a cast-iron pipe 3 ft. 6 in. diameter, laid to follow practically the surface-line of the ground through which it passed, and provided at the high parts with automatic air-outlet valves. This main is commanded by a stand-pipe in the engine-house premises. It is practically parallel with the old brick outfall sewer for the first 500 yards of its length; it then bends away to the north-east, passes round the most of Fort Cumberland, and, approaching the tank at the north-west corner, is carried along its west wall, and is connected to the tank by three branches, 2 ft. 6 in. diameter, one in each compartment, each connexion being governed by a screw-down sluice-valve.

Pumping Engines.—The new pumping engines consist of two similar compound-cylinder beam-engines, manufactured by Messrs. James Watt & Co., of Soho, each competent to exert 150 indicated horse-power, with a boiler pressure of 80 lbs. on the square inch. The sewage pumps are arranged to receive the sewage from both the high and the low-level sewers, thus taking advantage of a portion of the sewage being delivered to the pumps at a higher level. The boilers are Lancashire boilers, also constructed by Messrs. James Watt & Co. The two separate Clayton engines, which had done all the work for the twenty years prior to 1887, have since the new engines were put to work, been changed into a compound pair. Ordinarily

one of the new engines in conjunction with the pair of old engines, or the two new engines by themselves, will suffice for the maximum work; thus giving a 50 per cent. stand-by of engine power, which can be employed when needed. The boilers of the old engines have also been thoroughly overhauled, repaired, and renewed where necessary. They have been connected to the new boilers, and the steam and other piping have been so arranged that either engines or pair of engines, can obtain its steam from any or from all the boilers. One of the engines at least is kept at work night and day, from year's end to year's end, thus continuously extracting the sewage from the sewers, and getting rid of the necessity of allowing it to back up in the town sewers, as it had previously done for hours together. The leading dimensions of the new engines are as follows:—

| | Diameter. | Stroke. |
|--|-----------|---------|
| | in. | ft. in. |
| High-pressure cylinder | 20 | 4 2 |
| Low-pressure cylinder | 30 | 6 0 |
| Sewage Pumps two in number to each engine } and double acting | 30 | 3 3 |

According to the contract, the working speed of each engine was not to exceed twenty-four revolutions per minute; and at this speed, and with steam in the boilers at only 50 lbs. pressure per square inch above atmosphere, and when cutting off at half stroke in the high-pressure cylinder, each engine was to develop not less than 125 gross indicated horse-power. Each of the four sewage pumps is of sufficient capacity and strength to lift 250,000 gallons of sewage per hour, against a total head of 40 ft. In order that they should lift this quantity, even when they are somewhat worn, they were to be of such dimensions that, if there were no waste or leakage past the piston or valves at all, each pump should lift $7\frac{1}{2}$ per cent. more, or 268,750 gallons per hour. There are four Lancashire boilers, each 27 ft. 1 in. long by 7 ft. diameter, and each having two fire-flues 2 ft. 8 in. diameter. Their working pressure is 60 lbs. per square inch above atmosphere.

Reconstruction of Sewers.—In addition to the outfall works, the sewers of the district generally were overhauled and repaired; and such modifications as were consistent with the system were made, with the object of increasing the rapidity of flow of the sewage, and of preventing flooding in times of heavy rain. A portion of the district of Southsea is upon bog land; there is no doubt that it was originally covered by the sea,—in fact, that a large portion of Southsea is merely reclaimed land. Many houses have had to be abandoned and left uninhabited, owing to settlement. The sewers which existed in the streets in this area were found on examination to be broken-backed and out of level, and altogether in an extremely unsatisfactory state. It was felt that some means should be adopted for preventing, as far as the sewers were concerned, a recurrence of these evils; and rods were driven down through the peat, and it was found that, at depths varying from 10 ft. to 25 ft. below the road surface, there was solid gravel or shingle. A trench was sunk to the level of the intended underside of the concrete upon which the sewers were to be carried; and wooden piles were driven down in this trench until they were well into the gravel. The heads of the piles were cut off level with the bottom of the trench, and rolled iron joists were bedded upon them, thus bridging the distances from pile to pile. Upon the joists poling boards were laid transversely; and upon these poling boards was placed the concrete, upon which the sewers were bedded. The sewer was then put in upon the concrete, the trench filled in, and the road surface made good. This construction was no doubt somewhat expensive, but time has proved that the expense was fully justified. The sewers, on a recent examination, were found to be perfect in line and joint throughout, and this mode of construction has since been adopted for other portions of the town, where similar difficulties had to be contended with.

The whole of the new works were carried

* By Sir F. Bramwell, F.R.S. Read at Meeting of the Institution of Mechanical Engineers at Portsmouth last month, and published in the *Builder*.

out without disturbance of those already in existence; and these with the system of sewage discharge in use prior to 1887, were maintained until the present outfall works were put into operation. They were completed in 1887, Alderman Sir William King, the then Mayor, presiding over the opening ceremony, which took place on May 9 in that year.

BUILDING SOCIETIES AND THEIR OPERATIONS.

THERE are grounds for hoping that the Building Society crisis is abating. The strength shown by the Birkbeck Bank has made a powerful impression upon depositors, and the fact that one of the societies which had to suspend has reopened its doors, is also reassuring. At the same time, it is not to be denied that withdrawals of deposits are still going on, that great distrust exists, and that, consequently, other failures may occur. Moreover (as expressed by a contemporary), though the acutest stage of the crisis is probably past, there can be little doubt that the crisis will increase the depression in trade. The majority of the building societies, taking the country all over, are well managed, and doing a good work. The older ones do not go beyond their proper business, and most of them lend only to their members. When that is the case, unsoundness need not be feared, unless utter incompetence or actual dishonesty comes into play. There are no deposits to be withdrawn, and outside borrowers do not effect the business. But where banking has been added to the proper business of a building society, then unquestionably danger exists. In the case of the Birkbeck, banking had almost superseded building society business proper, but in smaller concerns the two branches are so related and so nearly equal, that a breakdown or a serious difficulty in the one must affect the other. Even when banking has not been added, building societies do not always restrict to their members the accommodation they give. They lend to outsiders, and, as soon as they begin to do so, a risk is run. In very many cases it is to be feared the building societies have lent largely to speculative builders, and as matters stand now it is probable that some of the borrowers will become embarrassed. Where circumstances allow of it, a building society will naturally call in loans, for even those that are in least danger feel it necessary to strengthen themselves. In any case, even if advances cannot be called in, few building societies will venture, for some time to come, to lend at all largely to speculative builders. All this must have an injurious effect upon the building trade. Some of the builders will be unable to continue their works, and others will have to reduce the number of people they employ. Furthermore, depositors and shareholders in the societies that have broken down will suffer more or less loss, and the losses will reduce the spending power of a large number of people. Although, then, the city has looked on calmly while the crisis has continued, the matter is one of very considerable importance to the general public. The liabilities of the societies taken together amount to 50 millions sterling, and the number of members is between half a million and three-quarters of a million. Distrust affecting such large interests cannot fail to have a very considerable influence, and it is much to be desired, therefore, that Parliament should undertake an amendment of the law. Government cannot do people's work for them, and, however the law may be amended, opportunity will always be left for dishonesty and incompetence. But at the same time it may be observed that Parliament gives special privileges to building societies for the express purpose of stimulating thrift amongst the humbler classes of the community; and if Parliament gives privileges it is not merely entitled to impose obligations, it is bound to see that the privileges are not abused. When building societies have been formed by working men

and managed by them, they are generally successfully and economically conducted. But large numbers of building societies are started for speculative purposes. The very object is to engage in risky operations, and with that end in view high rates of interest are sometimes offered to depositors, and all sorts of inducements are held out to the unthinking and unwary to get hold of their money. Parliament should limit its efforts to providing such supervision as will guide the members in taking care of their own interests, and as will result in the early discovery of malpractices. The amendments recommended comply with this rule. There is no invasion of the rights of members in requiring them to furnish to a public authority full periodical returns of their accounts, since the State confers upon them special privileges. And, moreover, the returns would enable members of all the societies, who cared to take the trouble to do so, to compare the working of their own concerns with those of their neighbours. If, for example, the returns were to be analysed by the Registrar and tabulated, and it was shown that the working expenses in one society amounted to no more than $\frac{1}{4}$ per cent. of the capital and the deposits, and in another were as high as 2 per cent., the members of the latter would have warning that there was cause for inquiry into the greater extravagance of their own society. So, again, to insist upon an efficient audit does not exceed the rights of the State. It simply places at the service of the members of the society the greater knowledge, skill, and experience of a public authority. The members naturally wish that their business should be honestly and economically conducted; but they may make mistakes in the choice of auditors, and it is for their interest that the mistakes should be discovered and rectified as soon as possible.

ST. MICHAN'S ROMAN CATHOLIC CHURCH, DUBLIN: ITS HISTORY, PAST AND PRESENT.

(Continued from page 201.)

THE present church of the Roman Catholic parish of that name has been long known as North Anne-street Chapel. It was begun about 1811, and finished before 1814, as we have already stated. The east end of the church terminated in a blank wall, and, between it and Halston-street a parochial residence for the officiating clergy was built after the year 1820. About thirty years ago, the late Venerable Archdeacon McMahon built the house adjoining Ball's-lane for the curates, which is now the Parochial House. Last year the old Parochial House was demolished, with a view of enlarging the church by extending it to Halston-street, and on the 15th November, 1891, his Grace Dr. Walsh, Archbishop of Dublin, laid the foundation-stone of the new building, which, at this date, is half finished. The parishioners showed the interest they took in their ancient parish, by subscribing over £1,000 at a meeting which was held after the ceremony.

By this addition, the church will be lengthened by over 30 ft., and will extend from North Anne-street to Halston-street. It will comprise a chancel, two side chapels, two entrances, a tower and belfry turret. It is built of Rathgar and Finglas limestone, with dressings of chiselled limestone from the Callan quarries. The chancel window, in the Perpendicular style, is 24 ft. high by 13 ft. wide, and forms one of the most imposing Gothic windows in the city. The tower rises to a height of 94 ft., and comprises five storeys. The main entrance has a double-bayed window over it. Above this, triple

lancet windows, lighting the ringing chamber; and above this again a circular chiselled limestone case for a clock $4\frac{1}{2}$ ft. in diameter. This clock is to have two dials, one facing Halston-street and the other facing the New Markets.

Finally, on each side of the tower is a large two-bayed transomed window in the bell-chamber. The tower-turrets and gables are crenellated—a usual ornament of the Perpendicular style.

The entire work reflects great credit on the eminent architect, Mr. Asblin, as well as on the builder, Alderman Toole, and the church promises to be one of the ornaments of our city.

[Our illustration has been taken from the architect's original drawing, from which some deviations are being made.—Ed. I. B.]

(To be continued.)

THE LATE MR. W. F. LEEPER.

THERE has just been erected in St. Stephen's Church, Upper Mount-street, a beautiful stained glass window, in memory of the above-named gentleman. The subject is "The Angel of the Resurrection," with figures of the "Holy Women at the Sepulchre." Beneath the window has been placed a brass tablet, on which is inscribed:—"To the glory of God, and in loving memory of Frederick William Leeper, B.A., T.C.D., Secretary to the Councils of the United Dioceses of Dublin, Glendalough, and Kildare. Born 11th April, 1858. Died at Davos Platz, Switzerland, 12th June, 1891. He was unwearied in his devotion to the work of the Church, and was greatly beloved by all who knew him. Erected by his friends."

THE ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.

The Fourth General Meeting of the Society, for the year 1892, will be held (by permission) in the Lecture Theatre, Royal Dublin Society's House, Kildare-street, on Tuesday evening, 11th inst.

The following are the papers to be submitted:—

"Cromleachs—supposed Sepulchral Structures and Bullaús," by G. H. Kinahan, M.R.I.A., Fellow.

"Traces of Ancient Dwelling in the Sandhills of West Kerry," by Ven. G. R. Wynne, D.D.

"The Rarer Forms of Irish Tiles," by William Frazer, Fellow.

"King John in Ulster," by G. D. Burtchaell, M.A., Fellow.

"Two Prehistoric Forts in County Clare":—
I. "Cahershaughnessy, near Spansil Hill," by H. B. Harris. II. "Moghane, near Dromoland," by T. Johuson Westropp, M.A.

"Old Place Names and Surnames" (Part II.), by Miss Hickson.

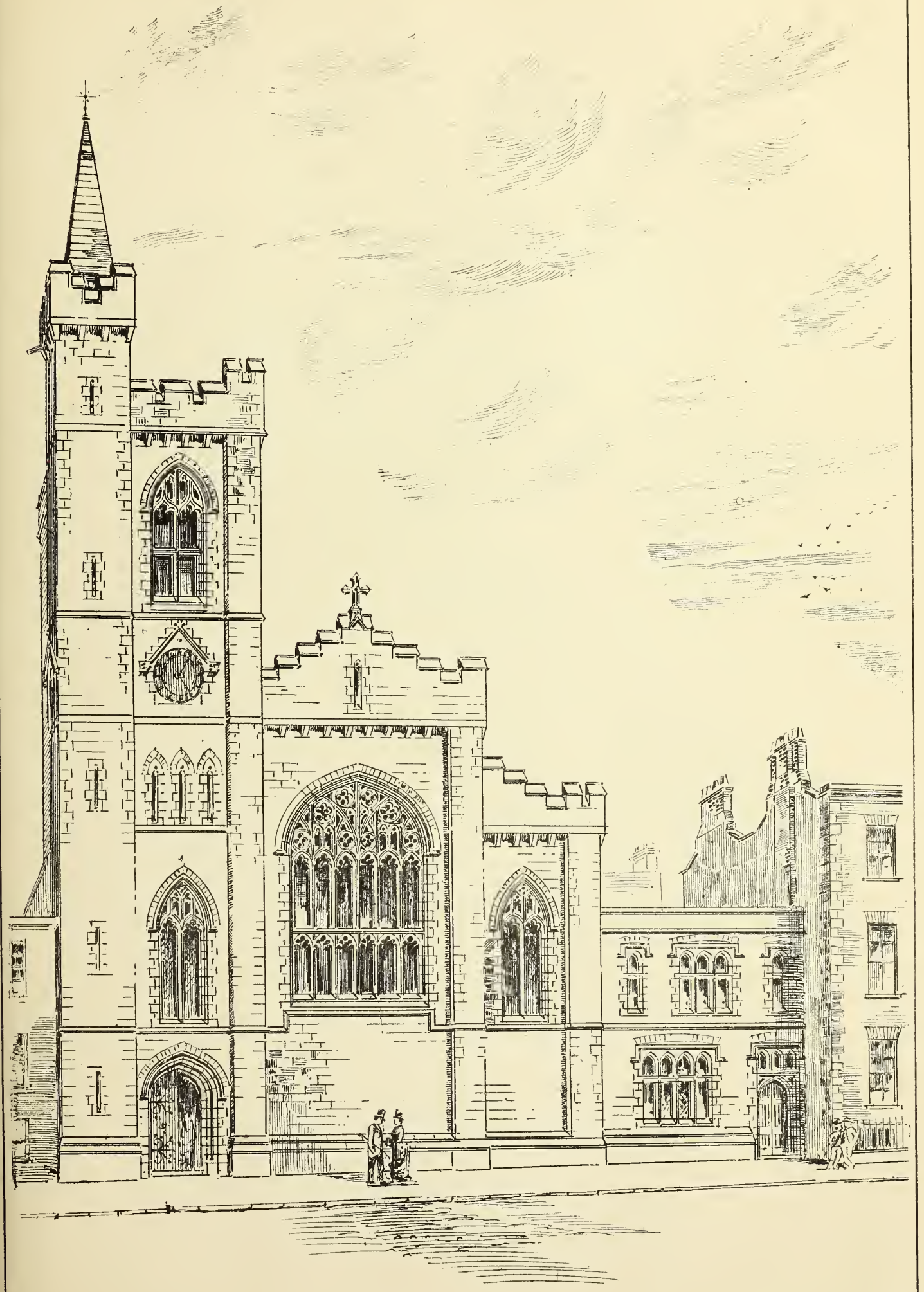
"Extracts from the Records of the Corporation of New Ross" (Part III.), by Colonel P. D. Vigors, J.P., Fellow.

Messrs. George Coffey, B.E., and L. R. Straugways, M.A., have kindly consented to exhibit a series of photographic lantern slides of the Tumuli and Inscribed Stones of New Grange and Dowth, from photographs recently taken.

The following candidates have been recommended by the Council for election:—

As Fellows—James Mills, M.R.I.A.; Robert Edward Ward, J.P., D.L.

As Members—Rev. Wm. Bagnall-Oakeley, M.A.; Rev. R. H. Semple, M.A.; W. Law Bros.; Robert A. Rutherford, L.R.C.P. and S.; Rev. George Weir, B.A.; William Harkin; John Gordon Swift MacNeill, M.A.; John Robert O'Connell, LL.B.; William J. Morrison; Rev. R. R. Kane, LL.D.; Thomas P. O'Connor, B.A.; R. W. Brereton, R.N.; Rev. John Lyle Donaghy; Thomas J. Smyth, LL.B.; William



→* ST. MICHAN'S CHURCH, NORTH ANNE STREET. *

— New Façade in Halston Street. —

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CORRESPONDENCE.

PROPOSED "WOODEN" HOTELS FOR TOURISTS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—We are all interested in the development of Irish tourist traffic. The letter of your inquirer, "Norwegian," gives me an opportunity to raise a note of warning—and a not quite inexperienced one—of caution about the latest notion, but an old one revived—of importing, or imitating, from Norway, wooden houses. I give an opinion with no uncertainty that the promotion of wooden house building for hotel purposes in Ireland, is sure to be attended with financial loss and disaster to that development which it is desired to promote. The climate of Ireland is not the climate of Norway, nor even that of England; it is far more rapidly destructive of timber buildings than either. I shall give no dogmatic opinion. I am willing to furnish anyone inclined to doubt with the particulars and localities of various wooden structures which I have had under observation during 40 years past. He can go and inquire for himself from some older surviving inhabitants how they lasted. I don't think he will find many traces of them. Do the promoters of wooden hotels shut their eyes to the dangers of conflagration, or if they make light of it, do hotel promoters make light of the very sensitive condition of the English tourist mind just at present to the risks of hotel fires?

Again, there is another danger scarcely less rapid than conflagration by fire, of which wooden-house builders would well take warning, and which no insurance company can guard them against. Outbreaks of dry-rot fungus in timber have been of late years, for some undiscovered reason, alarmingly frequent and distressing to architects.

Again, I shall press no personal theories. I am prepared to give the names of four or five important buildings where the destruction of timber floors, &c., has been sweeping, rapid, and unstayable. An inquirer can go to their owners or builders and learn the facts. In one case of my own experience, a large church, the dryrot plague appeared and utterly destroyed a great area of floors and joists within a few weeks, before the church was even opened. Within ten days after the misfortune was reported to me, I found the last sound piece of floor, of pitch pine, isolated from the rest, hopelessly infected, and the new organ, that had never been played on, saved with difficulty. The delicate filaments of the ivy-like fungus had already run some feet up the wooden pipes and trackers.

It would be not impossible for a wooden hotel-owner to shut up his house at the end of a tourist season, and to find it in the spring dry-rotted and destroyed, and to which he dare not bring a sound plank for repairs or renewal, as its infection also would be immediate.

Fire and dry-rot are but risks, but they are particularly incidental ones to wooden structures. Decay is inevitable and rapid. Wet-rot and the worm are some of its agencies. In a very few years I should expect to find any wooden hotel put up in Ireland decaying, full of developed insect life, dozed in its lower timbers, and pervaded with sickly smell, kept doubtfully weather-tight with tar and cheap paints, unpopular with both servants

and regular inmates, and shunned by travellers. Wooden hotels, I am of opinion, are far from cheap.

Concrete used in buildings specially planned for the economical use of concrete building, is a far less extravagant and lasting material for the development of cheap hotel building in Ireland. Again, I can point to examples of its successful employment in the West of Ireland. The one material required for importation, Portland cement, is easy of carriage. The other is usually abundant on the spot. Skilled tradesmen's labour is not essential. I have seen a sound and well-built addition to an hotel, which, I was informed, was built by the waiter, a handy and intelligent man, in the unemployed and dull season.—Yours, &c.,

THOMAS DREW, Architect.

THE DUBLIN TECHNICAL SCHOOLS.

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—Permit me to call attention to the fact that Kevin-street Schools were opened on Monday last, the 26th ult., and to impress upon intending pupils the great importance of joining at the commencement of each session. Those who fail to do so, will find it impossible to overtake the rest of the class who have got the start of them, and their presence will only act as a drag upon their fellow-students. I am glad to be able to state that all our old pupils fully recognise the importance of making a good start, and attending regularly; the new pupils have still to learn this lesson. Last session, owing to the announcement that the report of the governors recommending the establishment of schools on the north side had been adopted by the Corporation, intending pupils from the north side held back, thinking that classes would be opened in their immediate neighbourhood. The result was, that although our general attendance actually increased, the number of students from the north side of the city actually diminished. It is, therefore, of importance to draw public attention to the fact that the resolution of the Corporation deciding to raise the funds necessary to maintain classes on the north side, was not passed until the month of July, 1892,—too late to enable the governors to acquire premises for this session. Next year we hope to be able to provide technical instruction for the whole city; but in the meantime we hope that the north side will see the wisdom of joining at Kevin-street for this session. Our programme, which appears in your advertisement columns, speaks for itself, and informs the public that there are at Kevin-street, technical, science, and art classes, some one or other of which will be of advantage to men and women, no matter what their employment. It is right, however, to state that at the request of persons interested in that industry, we have decided to open a class in laundry-work,—a need much felt in this city. To complete the course of instruction in our commercial department, we have added classes in commercial penmanship and German, and if the Dublin clerks only avail themselves of the advantages we offer, there will be less demand in the city for imported correspondence clerks.

ARNOLD GRAVES, Hon. Sec.

Oct. 1, 1892.

THE RAINFALL OF CANADA.*

CANADA, stretching as it does from the Atlantic to the Pacific—a distance of about 4,000 miles—may, as regards its rainfall, be divided into four districts as follows:—The first division, 2,500 miles in width, lying between the Atlantic coast and Winnipeg, in which the rainfall is ample for the growth of forests and for all varieties of agriculture. The second division, about 1,000 miles in width, lying between Winnipeg and the Rocky Mountains, in which the rainfall is not sufficient for the growth of great forests (which require moisture during the entire

year), but, being almost confined to the late autumn, winter, and spring seasons, leave the summer skies almost entirely cloudless, and the soil in a prairie state, unencumbered with trees—circumstances so conducive to the immediate facility for the settler's plough, and to the perfect ripening and uninterrupted harvesting of grain of the best and brightest sample. The third division, about 500 miles in width, lying between the eastern side of the Rocky Mountains and the summits of the Cascade or Pacific Coast, range of mountains, where the rainfall is rather deficient, and for agricultural purposes is supplemented by irrigation from the glacier mountain streams. The fourth division, about 150 miles in breadth, lying between the summit of the Cascade Range and the Pacific Ocean, which has a very great rainfall, as it receives almost all the moisture which the winds carry from the Pacific Ocean, and, unable to carry over the summits of the Cascade Range, precipitate on the western slopes of those mountains. This abundant rainfall clothes this division with the dense and magnificent forests of gigantic trees which supply the saw mills of British Columbia with lumber, the quality and dimensions of which are the wonder of the world.

Although the above descriptions apply generally to the respective divisions, yet in the first and second divisions—extending as the first does 2,500 miles, and the second 1,000 miles—there are gradations. Thus the eastern side of the second division has more moisture than the western side; and so the prairies near Winnipeg are here and there interspersed with groves of trees, which, however, become rarer as one goes westward, and they entirely disappear (except along some river bank) two hundred miles west of Winnipeg. The western side of that division is treeless, and is becoming the home of the ranchman, whose great herds of cattle and horses occupy the great prairie pastures formerly sustaining countless thousands of the buffalo, now extinct.

In the eastern division, also, the rainfall is much greater on the eastern side than on the western side of it, so that while throughout the division there is sufficient moisture for general farming, yet the coast districts, and the province of Nova Scotia especially, have a decidedly moister summer climate than the western portion of this division. The frequency of refreshing showers during the summer months, while not interfering materially with haying and harvesting operations, but only causing a suspension thereof for a day or so now and then, are eminently conducive to abundance and excellence of both hay and pasturage. The grass lands are green throughout the summer, and never assume the parched and withered appearance that always characterises those at a greater distance from the sea during the late summer and early autumn. The beneficial effect of this verdancy is that the farmer in Nova Scotia need only take care not to overstock his pastures in the early summer months; and if he exercises this care, his cattle will have ample food from pasturage alone, without his being obliged, as the farmer in the interior is, to rise fodder crops to carry them through the hot months of summer. This continuance of the pasturage throughout the entire summer renders Nova Scotia pre-eminent for dairying, as no fodder crop can give the same delicate flavour to dairy products that is got from the sweet pasturage of the Maritime provinces of Canada.

THE PROPOSED MUSIC-HALL.

MR. Michael Gunn has had plans prepared for the erection of a music-hall, adjoining the Leinster Hall in Hawkins'-street, of which he is the proprietor. It is designed to seat about one thousand persons, and to cost some £15,000. Application for a licence to sell drink in the Hall will, we understand, be made to the Recorder in a few days.

* From "Handbook to the Maritime Provinces of Canada," 1892.

ABBEYLEIX DRAINAGE.

At a recent meeting of the Abbeyleix Board of Guardians, the question of the drainage of Abbeyleix was under consideration. The following report by Mr. W. Kaye Parry, C.E., was read:—

"Regarding the desirability of providing proper drainage for the town, I believe there can be no second opinion. At present, it appears that there are no drains whatsoever, and the subsoil in the neighbourhood of the dwellings is becoming saturated with the refuse of the houses; while at the same time the streams which pass through the town are so polluted with sewage as to render the water absolutely unfit for domestic purposes. There is an almost entire absence of sanitary accommodation for the dwellings; the dirty slop-water is either thrown out into the yard (where it lies in stagnant and offensive pools), or soaks into the ground, and poisons the subsoil; or else it is disposed of by being thrown into the streams, and thus polluting them. There are very few water-closets in the town, and those which exist discharge their contents into open ditches, which are a constant source of foul and offensive odours. The refuse from the ashpits and petties is permitted to accumulate, in many cases in large dung-heaps in the back yards.

As regards the possibility of providing a good scheme of main drainage and sewage disposal, no serious difficulties exist. The situation of the town lends itself admirably to a well-considered drainage scheme: a glance at the map will show that the water-shed of the district is in a northerly and westerly direction; and, in laying out a drainage scheme, it would be well to follow these natural drainage lines. The main sewer should, in my opinion, commence at the fountain at the north end of the town, and be laid along the main street as far as the dispensary. From this point I should take it across the fields to Tully Roe, and thence beneath the railway to the low-lying ground near the bridge on the country road leading from the Oldtown to the Mountrath road. At this point the sewage disposal works should be laid out, to which reference will be made below.

It will be necessary to keep the sewer 15 in. under the surface at the market-hall, to drain the houses in New-row, which are sadly in need of sanitary improvement; but as the road at one point is 14 ft. over the road level opposite the dispensary, the length of deep cutting will be inconsiderable. To render the scheme complete, I am of opinion that a branch sewer should be laid up to Ballykill-road as far as a point opposite the fever hospital, to drain the building and the workhouse. The basement of the hospital is 4 ft. 6 in. over the road level at the proposed summit of the branch sewer, so that the connection presents no difficulty. I have had the levels taken, and find that an average gradient of one in three hundred can be secured for the main outfall sewer from the town to the works, and this will suffice to render it self-cleansing. I am informed that the population of the town is about 1,000, and the dry weather flow of sewage may therefore be calculated at a maximum of 22,000 gallons per diem. Provision must also be made for a certain percentage of the rainfall which will be collected from the roadways, roofs, and back yards. The area of the town is about fifty acres, and the total wet weather flow of sewage may be computed at 100,000 gallons per diem. I have therefore calculated on using a nine-inch pipe for the outfall sewer, which will be more than sufficient for this quantity when running half full. For the branch sewers and the first section of the main sewer, I propose to use six inch-pipes. Proper manhole chambers should be arranged in selected positions for observation and cleansing, and ventilators should also be provided. It will be necessary to make provision for the house-drains by fixing junctions on the lines of the sewer, and keeping a careful note of these positions. To secure periodical flushing, I propose to provide automatic flushing tanks, fed by the water from the street fountains. This will keep the sewers in a perfect state of efficiency.

As regards the disposal works, I have to recommend a very simple system of land irrigation, as being the most suitable to the requirements of the district. The sewage of the town can be safely disposed of in this way, and the amount of attention which is required is very small. The works would consist of a preliminary straining chamber and a series of open carriers, laid out to suit the levels of the land to be treated, so that the sewage may flow out over the entire surface. Part of the land might with advantage be arranged as an osier bed, for these plants are capable of taking up very large quantities of sewage. I do not propose that any tillage should be attempted, as it would involve too much labour and attention as regards the

quality of the land necessary. I recommend that about five acres should be purchased. It will not be necessary to break more than about half this quantity at present; but it may be reasonably assumed that after a time the volume of sewage will be increased as the houses are connected with the main sewer, and also because the number of water-closets will be greatly augmented when a proper system of sewerage has been laid down."

The Clerk said that Mr. Parry's estimate of the cost, amounting to £1,500, could be repayable, borrowed from the Board of Works, at the rate of £72 7s. 6d., in thirty-five years.

The Chairman (Lord de Vesci) stated that the committee had met that (Tuesday) morning, and the conclusion came to was that the cost of the drainage scheme was very high. The committee, therefore, decided to recommend an alternative plan, leaving out the drainage of New-row. What the committee had in view, as being the cheapest, was a system of earth closets.

Mr. FitzHerbert was of opinion that Mr. Parry's scheme would be the best.

The Clerk explained that if the £1,500 was spread over the whole electoral division of Abbeyleix, it would only come to 2½d. in the pound; but on the two townlands in which Abbeyleix was situated, it would amount to 8d. or 9d. in the pound.

Mr. Foster said the question was not ripe enough to discuss the area of chargeability.

Mr. Graves Swan considered it would be unfair to spread the tax beyond the people benefited.

The Chairman thought the question was whether something more feasible could be carried out.

Clerk—Something must be done.

Mr. T. Walpole—£1,500 is a large sum of money for a main drain.

Chairman—There is deep sinking—over 12 ft. in some places.

It was finally decided that Mr. Parry, C.E., be asked to give an alternative and more moderate scheme, of a less expensive character.

At last Tuesday's meeting, the following was read, giving Mr. Parry's revised estimate:—

SIR,—I am in receipt of your favour of the 15th inst., in re proposed drainage scheme for the town of Abbeyleix. I have very carefully gone over the details of the estimate, and find that by omitting the drainage of New Row-street, and the consequent deep sinking, &c., the works can be carried out for the sum of £900. This sum does not include engineers' fees, &c.; so that a sum of say £1,000 should be applied for to carry out the scheme.

The matter was postponed, for the attendance of Lord de Vesci, who is interested in the question.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 201.)

WE obtain a few partial glimpses of the roads, in a part of Leix, as surveyed about the year 1777.¹ One of these represents the road from Carlow, leading in one direction towards Cloughgrennan, and in the other parting from Carlow, along the right bank of the River Barrow to Bestfield, the seat of Best, Esq., where the road seems to end. Afterwards, we find Knockbeg, the seat of a gentleman named Pleasant, on the same side of the Barrow. In continuation follows New Garden, the seat of a gentleman named Carpenter; and then we find Schroul, the residence of — Harpole, Esq. A ruined castle is then marked off near the water line, and at an interval of nearly three miles, and quite near the river, church ruins, not otherwise described, are seen. Then successively northwards, above the same line,—the road not appearing—are Sportland House, belonging to Mr. Weldon, Barrow House, belonging to Mrs. Feunell, with a spot, inhabited by some respectable person, and called Farm Hill. Soon afterwards the County of Kil-

dare line intercepts.² The other road, on the left side of the Barrow runs altogether through the Counties of Kildare and Carlow.

On Taylor's and Skinner's Maps of the Roads of Ireland, the distance from Athy to Maryborough is marked 12 miles and 4 furlongs. This means according to Irish measurement. The road from the former place enters the Queen's County at Blackford, on the dividing stream, leaving Derinroe, with the seat of Kelly, Esq., on the right, and Blackford House, on the left; thence it proceeds towards Ballykillcavan House, the seat of General Walsh; while woods, and apparently the Castle of Ballyadams, with the old church of Noughval, flank its left side. An obelisk or turret appears on an elevation, and surrounded by woods.³ The road towards Ballylinan and one towards Noughval appear on the same side, before the main road enters Stradbally, on the east side of the village. In front of Ballykillcavan House, and on the right, extends a branch road to Kildare, with another apparently unformed, but then laid out, and since perfected. This latter crosses the Stradbally River, and encloses on the right Brockley Park, the Earl of Roden's beautiful residence, while it strikes the Mountmellick-road, north of Dunamase. The Protestant church, with the abbey, are marked near Stradbally, on either bank of the river; while the Portarlinton and Mountmellick-roads from Stradbally, are intercepted. On the south side of the last-mentioned village are seen Stradbally Hall and its wooded demesne, lying between the Timahoe and Raheenduff-roads. There seems a new road being struck out from near Raheenduff House towards Lamberton Park, in a straight line; and, it has since been opened, as part of the former coach road from Dublin to Cork. The coaches have long since ceased to run on it; but, such was not the case in our juvenile days.

Leaving the village of Stradbally, the road immediately took an angular bend on the way to Maryborough; but now it shoots onward, straight as an arrow flies, towards the pass not far from Dunamase. On the left branches a road towards Kiltéal old ruin and on to Mountmellick. From the latter ancient road, one still more antiquated runs nearly east by west, and south of Dunamase Rock, immediately over it, intersecting the old Maryborough and Stradbally road, and then sloping up, with steep ascent towards Dysart Enos old church and graveyard, and passing by the old Castle of Dysart, adjoining the house of a gentleman, named Baldwin. Then it opens on the road from Maryborough to Castlecomer, which passes in front of Lamberton House. In 1777, it would seem, no more direct road lay on the line from Stradbally to Maryborough, than this very imperfectly constructed and old road here afforded as a means of passage. At present, a more recently constructed one, quite direct and tolerably level in its course, avoids this lengthy *detour*.

After a slight bend, it soon crosses the road from Dublin to Abbeyleix, leaving Rathleague House and demesne, the residence of Sir John Parnell, with Summerhill, the seat of a Mr. Baldwin, on the left; while Kilminchy House, and its old yew tree avenues, then occupied by a gentleman named Fitzgerald, lay on the right. On that side also appears the newly-planned road from Maryborough towards Monastrevan, or possibly towards Mountmellick, and since completed, with the old Ridge-road, running due north from Maryborough, just at the east entrance to this county town.⁴

On a portion of this map, there is a plan of Mount-Mellick town, with the approaching roads: one from Tullamore, one from Mount-rath, and one from Clonegowan, in the King's County. From this latter branches

² See *ibid.* Map 156.

³ This appears to be the fantastic structure, and a sort of rudely constructed obelisk, now known as Cobler's Castle. It is traditionally said to have been erected to afford employment one hard year.

⁴ See Taylor's and Skinner's Maps of the Roads of Ireland, Surveyed 1777. Map 157.

¹ See Taylor's and Skinner's Maps of the Roads of Ireland, published in London, 1778. Royal 8vo, or small folio.

a road to Portarlinton—castle ruins meet it—and another to Stradbally. Another road proceeds from Mount-Mellick, by church ruins, and southwards to Maryborough; while from the latter highway, a road runs to Shean Castle, the residence of Rev. Dean Coote. Besides, this road is connected by another, which joins the Clonogowan road. From that connecting road, another branches in an easterly direction, showing again a new road to be constructed in the direction of the Great Heath of Maryborough.

The road from Dublin to Limerick is represented before entering Maryborough as passing by Dysart House, inhabited by Baldwin, Esq., and Kilminchy, inhabited by FitzGerald, Esq., as also by Summerhill, the seat of Baldwin, Esq. Roads branch from it towards Stradbally, Athy, Cashel, Ballynakill, Portarlinton, and Philipstown. From Maryborough, it proceeds in a tolerably direct line towards Mountrath, passing Clonrouse ornamental grounds and house, to the turnpike, at Boughlone (Bo-chulinn) where one road leads to Ballyfin House and Demesne, belonging to Poole, Esq. The other road continues at an angle, beside a large skirt of bog. Soon again a road branches to Donoughmore, while the other road proceeds by Clonenagh Church and Red Castle, with a few minor roads meeting, until it enters Mountrath. There a road is represented parting towards Abheyleix on one side, and another road going in the direction of Mountmellick, on the other side. From Mountrath the Limerick road passes over the River Nore at Castletown on hy Rushall towards Borris in Ossory. A road⁵ parts at Castletown for Abheyleix.

The continuous trace of this road shows the seat of Newtown, Palmer, Esq., beside it, crossing a road which leads to Durrow, and having projected on it, another road leading to Durrow, as also one at Borris in Ossory leading to Donoughmore. A little to the north is to be seen the River Nore, and near its banks are Laurelhill, the seat of Despard, Esq., Coolrairie, Springhill, the seat of Short, Esq., and another house belonging to Stevens, Esq. Afterwards, that road proceeds to Roscrea, passing Raheen, the seat of White, Esq., and Ballaghmore Castle, before it enters the County of Tipperary.

A road, leading to Castledurrow in one direction from Ballynakill, and in the other to Ballyragget, is shown as existing in 1777, when Taylor's and Skinner's Maps of the Irish Roads were surveyed.⁶ That to Castledurrow—then in the County of Kilkenny—passes Lisbigney, the seat of Warren, Esq., and the houses of Rev. Dr. Chaloner, and of Rossconnell, Walker, Esq.; afterwards, it crosses the road leading from Ballyroan to Ballyragget; then, leaving Castlewood and ruins on the south, it passes over the River Nore into Durrow, whence it continues a course south-west, and leading to Clonmel, in the County of Tipperary. That branch of the road, leading westwards from the River Nore to Rathdowney, and keeping along the northern bank of the River Erkin, passes Tentower, the seat of the Earl of Upper Ossory, Ballyhoaden, FitzPatrick, Esq.; Oldglass, Drought; Knockfin, Palmer, Esq.; and Middlemount, Flood, Esq. Four roads diverge from it southwards, and as many tend in a northerly direction. From Rathdowney, that road, still continuing westwards, sends off a northern branch to Donoughmore Barracks, while a branch leading in a southern direction passes Mount Oliver, the seat of a Mr. O'Flaherty, and a little eastwards, near a road leading south from Rathdowney, is Levally, the seat of Vickers, Esq. A road leads northwardly from Durrow to Mountrath, and near this is Moyne, the seat of Stubber, Esq. Near this, and on the west banks of the River Nore, are Dunmore, the seat of Staples, Bart.; and Castlewaters, the seat of Lyons, Esq.

Roads from Athy to Ballynakill are represented as entering the Queen's County, in two different places. One leads by South-

field, the seat of Southwell, Esq., and Ballinabert, by Tully Church to Cloopoke and Humes, Esq., and thence to Timahoe. The other road passes direct to Stradbally, by Brockley Park, the seat of Earl Roden. Strange to say, the old road from Stradhally to Carlow is not marked on this plan, although existing at the time. From Stradhally a road passes by Cosby's, of Stradhally Hall, and the Charter House to Timogue church and cross roads. Here, Purcell's House, Lough Teague, and Coolnehacky Houses are to be seen, on the direction to Timahoe. From this village, the road towards Maryborough passes Cremorgan, the seat of Moore, Esq.⁷ The road to Ballynakill, leaving Barrington's House and Cullinagh Mountains to the right, passes Derryfoyle, the seat of Vickers, Esq., as also Trench's demesne, when the Maryborough road meets it; afterwards, it enters the borough town of Ballynakill.⁸ The roads leading from Portarlinton to Mountmellick, beside Lawnsdown, the seat of Gore, Esq., on the southern bank of the River Barrow, and in another direction towards Ballybrittas, by Spire Hill, are to be found marked on Taylor's and Skinner's Maps of the Roads of Ireland, surveyed 1777.⁹

THE MOTOR-MAN.*

I would like to sing in a pleasing strain,
Yet, I fear I'll end in a sad refrain;
For the subtle forces of nature now
Are employing many a thoughtful hrow,
In the field of progress, day and night,
To gather them in and hold them tight,
'Till steam shall yield to the lightning plan,
And the engineer to the Motor-man.

Let the sceptics scoff on every hand,
Let them doubt when they cannot understand;
But the mighty forces of steam must yield
To a mightier force, now scarce concealed
From the public view, yet the gauzy veil
May soon be pulled off, and upon the rail
There will come a change in time's briefest span,
When we all must bow to the Motor-man.

When Galileo preached his creed,
But few of his list'ners did him heed;
When Watts saw the lit of the kettle's lid,
He knew underneath there were forces hid;
When Fulton first launched his tiny boat,
Who'd dream of the palaces now afloat?
And when Morse his wires o'er the house-tops ran,
Who'd think of the coming Motor-man?

Alas, alas! for the engineers,
How their bones will bleach in a few more years
In the honeysuckles over the country wide,
Where we'll all be thrown, hereft of pride,
We may then sit down and our cuds can chew,
Telling stories of days when we filled the view
Of the public eye, when we led the van,
Ere we heard a word of the Motor-man.

What a mass of song in my simple way
I have chorused up for many a day!
How I tickled the ribs of the engineers,
And won pleasing smiles from their comely dears
As I sung the joys of our railway life,
And I pictured pains of our daily strife,
As we forward marched in the labour van,
But I cannot sing for the Motor-man.

I am now too old to begin anew,
I shall end my days with the engine's crew;
For the dynamos and the Leyden jars
I no more could catch than the distant stars.
In the cabs we reigned with a swing supreme
In the glorious days of the age of steam;
We must march in the ghostly caravan
When we're crowded out by the Motor man.

SANITATION IN THE PEMBROKE TOWNSHIP.

At a meeting of the Commissioners on Monday, a report of the Cleansing Committee, which recommended that the bucket system of removing house refuse should be put into compulsory force in the township, was adopted.

A letter was received from Dr. J. Knox

⁷ Near the old Cullinagh-road junction, a Turnpike is marked.

⁸ See Taylor's and Skinner's Maps of the Roads of Ireland, Surveyed 1777. Map 160.

⁹ See Map, No. 160.

* By Shandy Maguire, in *Locomotive Engineering Journal*.

Denham, stating that, as requested by the Commissioners, he had inspected Martin's Cottages, Ball's Bridge, and had found them to be in a very unsatisfactory state. The sanitary accommodation was defective, the water supply insufficient, and structurally they were more or less in a dangerous state. Further on in the letter it was stated that, bearing in mind the fact that these houses should be closed, the inhabitants would be unable to find suitable accommodation in the neighbourhood, he would not feel justified in asking the sanitary authorities to close them. The scarcity of proper dwellings for the poor in the district was a serious impediment to the proper working of the Public Health Act.

Dr. Cranny inquired if they had power to get the houses put to rights?

The Chairman said they had better send back Dr. Denham's report to him, with a request that he would state definitely whether the houses were fit for human habitation or not.

This course was agreed to.

SALE OF A CHURCH.

ON Tuesday last the plot of ground, measuring 78 ft. by 60 ft., on the north side of Swift's-alley (off Francis-street), with the building standing thereon, known as "Swift's-alley Free Church," was put up for sale by auction. The lease is for a residue of 999 years from 25th of March, 1735. The building is described as of solid stone, fitted with a gallery round; there are sexton's apartments adjoining. The entire was bought for the sum of £110, subject to £10 per annum, the purchaser being a well-known citizen, who purposes, after renovation, to devote it once more to religious purposes. The Rev. Tresham Dames Gregg, D.D., was for many years the chaplain of Swift's-alley Church.

NOTES OF WORKS.

The Board of Public Works seek tenders, till 13th inst., for the erection of a Royal Naval Reserve Battery at Galway. (See advertisement.)

A new hospital is to be erected at the Belfast Lunatic Asylum, and also additions to be made to the female day-room of the same institution, tenders for which are asked by the Commissioners of Control, till 20th inst.

The block of buildings known as "Doherty's Hotel," Londonderry, corner of Great James'-street and Strand-road, are being demolished, preparatory to erecting new business premises on the site, for Alderman John B. Johnston, merchant.

The Bray Township Commissioners are about to erect three shelters on the Esplanade at this fashionable seaside resort. Each shelter will be capable of accommodating about thirty-six persons, and will be constructed principally of iron and glass, on a concrete platform. When completed, they will, no doubt, be a desideratum to those frequenting the Esplanade. Tenders will be received up till the 17th inst.

Extensive alterations and improvements have been made to Clonlara parish church, diocese of Killaloe. Amongst these may be noted the addition of a chancel, an organ-chamber, and a vestry. There has also been erected a memorial window to the late Lady Dillon Massey, elaborately carved in Bath and Portland stone, the work of Messrs. Harrison and Sons, Great Brunswick-street. A new pulpit and reading-stand, also open benches in pitch pine, have been supplied. The heating apparatus, tiling, &c., are of the newest description. We understand that the main portion of the work was carried out by local tradesmen in a very satisfactory manner.

TENDERS.

For erecting doctor's residence at Blarney, for the Cork Board of guardians—Mr. D. J. Coakley, South Mall, Cork, architect:—

J. J. Coffey (accepted) .. £745

NEW ORGANS.

Messrs. Telford and Telford, of St. Stephen's-green, have just completed an organ intended for Stanley Cathedral, Falkland Islands. The instrument consists of two manuals and full compass of pedals, and is in a pitch pine case of Gothic style, with artistically decorated front pipes. The same firm have in hands a large organ for the Molyneux Church, Peter-street.

THE BIRKBECK BANK.

THE run upon the Birkbeck Bank last week was no doubt ludicrous, but it was more pitiful than amusing. The collapse of the Liberator Building Society had scared a large number of persons who invested their savings in building societies, and, the Birkbeck Bank being connected with the Birkbeck Building Society, a very small and quite unfounded rumour was enough to send scores of persons already alarmed to withdraw their money. But it shows the amount of distress which the collapse of a building society creates; it destroys in a day the savings of years of a class of persons who have the most difficulty in putting by money, and creates a widespread distrust. In many respects there never was a worse form of investment for the earnings of clerks and others than that of a building society. Because there must always be a considerable amount of risk in respect of even those which are the best managed. Well-meaning judgment will not always insure success in regard to operations in connection with land and buildings. No doubt building societies appeal to various dominant instincts—to the love of thrift and to the love of gambling—and we suppose they will always remain more or less popular. But every year it becomes more and more clear that the prudent investor of small means must continually exercise personal caution and constant supervision over any society in which he may have placed his savings, and this is usually what he cannot do. We can only hope that the cases of the Liberator Building Society, and of the Glamorganshire and London Provident Building Societies, which are the last two examples, in one instance of fraud, and in the other of "non-liquid" investment, will so brace up public opinion that before another season elapses some stringent legislation may take place which will make these societies more secure. On the other hand, no legislation can prevent over-sanguine managers from over-rating their societies, and no audit can tell to a nicety the realisability of assets.—*Builder*.

MISCELLANEOUS.

THE ROYAL COLLEGE OF SCIENCE.—The session 1892-93 of this college, under the Department of Science and Art, will commence on Monday, 3rd inst. The particulars of the courses of instruction in the sciences applicable to the industrial arts afforded by this college will be found on our front page.

CITY OF DUBLIN TECHNICAL SCHOOLS.—The sixth session of these schools opened on Monday last, and additional classes are added to the number of those already held for the technical education of our artisans. We would again counsel our young building craftsmen to at once join the several classes suited to their various callings which are provided in those schools. The fees charged (which are very moderate), and all necessary information, can be had from the secretary, at Kevin-street.

PARQUETRY, says the *Furniture Gazette*, has come to be regarded as an important adjunct to interior decoration. Although the patterns are strictly geometric in character, the varieties now produced are wonderful, and the large proportion of the varieties turned out by leading firms are beautiful, both in balance of parts and combination of tones. There is little intermixture in the styles brought out of what may be termed colour, either through means of natural woods or stained timber; but, while such a combination as dark, intermediate and light shades of oak presents a solidity of appearance highly conducive to the realisation of what a floor ought to be, there might be a wide scope for combining distinctively ornamental features with utility by the use of coloured woods.

DUBLIN METROPOLITAN SCHOOL OF ART.—An exhibition of works sent in for National Competition, in connection with the Science and Art Department, South Kensington, is now open free to the public, at the School of Art, Kildare-street, and will remain open till the 8th inst. The work of the school will be resumed on the 3rd inst.

SIR WALTER RALEIGH'S HOUSE AT YOUGHAL.—The house built by Sir Walter Raleigh on the banks of the Blackwater, at Youghal, Co. Cork, in 1588, is now (says the *British Architect*) being measured up previous to the demolition, and conveyance to the World's Fair at Chicago. Though the house, picturesquely named "Myrtle Grove," has nothing outwardly to commend it, yet it is said to be full of interesting Elizabethan features, in addition to the fine yews and beautiful myrtles which surround it, the richly-carved oak mantelpiece in the drawing-room, rising nearly to the full height of the ceiling, being specially noticeable. Really one would have thought its interesting historical associations would have sufficiently endeared it to a British public to prevent its being removed bodily over to Chicago. But, as it is in the hands of the executors of the late Sir John Pope Hennessy, M.P., and is to be sold to highest bidder, we suppose the Americans will take it. There is a grim sort of humour in the suggestion of the American agents that they will treat the house with loving care. When once the house is demolished, they might sell it for old building materials, for what value it would be to anyone so far as its antiquarian interest is concerned, though it may serve its turn as a penny peepshow amongst other ancient European "novelties" to be exhibited at Chicago!

THE CHAPEL ROYAL, WHITEHALL.—As there appears to be some attempt to get up a protest against what is intended or supposed to be intended to be done in preparing the Chapel Royal at Whitehall to form part of a United Service Institution, it may be as well to state the facts. Nothing is to be done at all to the chapel or banqueting-hall (by whichever name we call it) except to break through a couple of doors on two levels in the south side of the building, in what is merely a brick wall. Messrs Aston Webb and Ingress Bell are preparing plans for the additional buildings, which we have seen, and which are carefully designed so as to avoid as much as possible any appearance of interfering with the architectural design of the existing building. A block of buildings containing committee and other rooms, a lecture theatre, and library, has been designed to stand south of the banqueting-hall, and has been purposely kept as an entirely distinct design in treatment and in the levels of its cornices, stringcourses, &c., while it is further cut off from the existing building by a plain piece of wall of a few feet in width, set considerably back from the line of the banqueting-hall, and entirely without what are sometimes called "architectural features," so as to leave the return of the old cornice, &c., undisturbed, and separate the new building entirely, architecturally, from the old one. There can be no pretext, on the face of the plans as prepared, of anything being done to interfere with or spoil the banqueting-hall. In regard to this latter we may mention, what we believe few people are aware of, that the banqueting-hall architecture is not as built and left by Inigo Jones; it was rebuilt in the earlier part of this century by Soane, to a great extent at all events, and it seems uncertain whether Soane took down and replaced the actual stones, or whether he only rebuilt the design, wholly or in part. The masonry must at all events have been a good deal re-worked on the face, if the actual stones were reset; so that it can hardly in any case be of the same interest as if it were an intact building by Inigo Jones.—*Builder*.

ROOF DRENCHERS.—In a letter to the editor of *Fairplay*, Mr. Alex. Sinclair writes:—"In noticing the recent fire in Mitchell street here, and the escape of the *Glasgow Herald* buildings, which partly abutted on the property now destroyed, you expressed a desire to know the means by which we escaped. The explanation is not difficult to give, and if applied, as in our case, will, I believe, be equally effective in preventing much avoidable danger, and even destruction. The new system to which you allude is what I have called 'roof drenchers.' It is formed of wrought-iron pipes set on the ridges or other parts of the roofs, against wind, 'wells' of light, or any part that may be threatened with external fire. The water may be turned on to all or either of these pipes according to the necessity of the case. At intervals of eight feet, small oval frames (or open sprinklers) with flattened ends, are screwed into the pipes, so that when the rush of water strikes against these ends, it scatters and drenches everything within 20 ft. There is no patent, and the expense is comparatively small. On the occasion of the late fire, our roofs were kept covered with a constant flow of

water till the danger was over, excepting, however, a portion where it happened the pipe was not (because of being in the hands of our mechanics for improvement), and where, consequently, there was no protection from water. There only our roof was burned through. What I have said refers to the external fire and the protective means, but I should add that internally we have the Grinnell automatic sprinklers installed throughout our buildings. On this occasion the fire seized the woodwork between the roof and the ceiling of our stereo department, but fortunately the heat from the fire started three of the Grinnell sprinklers there, which promptly extinguished the fire and prevented it spreading to more dangerous quarters. One extreme test of the use of the external drenchers was seen in the cases of some of our windows which faced and were exposed to the greatest fierceness of the flames from our neighbours. Only the glass was cracked, not broken, while the wooden frames were intact, and the paint on them was not even blistered. The quiet stream of water on them saved them and the inside."—*Herald*.

LIGHTHOUSE ILLUMINANTS.—From an article on above subject in *Chambers's Journal* for October, we take the following:—"With regard to the electric light much was expected. Its intensity was such that many asserted it would shine steadily and distinctly through all conditions of atmosphere. But such expectations have met with disappointment. Vivid it is, and searching it may be; but its utter inability to penetrate through a fog of any density, the stranding of the Eider, well within the zone of St. Catherine's electric light, most woefully demonstrates. Here was a light which, under clear conditions of weather, shines with almost solar brilliancy, quite powerless to penetrate the layers of partially condensed aqueous vapour that lay between the lighthouse and the German liner. The electric light with its matchless intensity is doomed so far as its reputation as a lighthouse illuminant is concerned. Since the date of its introduction at Dungeness in 1862, the electric light has had a fair trial, and under certain conditions of atmosphere its powerful rays are found to be completely quenched. Now that all authorities are agreed upon this point, it remains to be seen what impulse the failure of the electric light will give to the development of large lenticular surfaces, and how far coal gas will be used as the illuminant of the future. With the quadrilateral arrangement or the 'giant' lens and a powerful gas flame, the cry of the steamship companies for a light of great power on the Old Head of Kinsale will soon be granted. The fleets of vessels that there 'make' the south-west coast of Ireland, after crossing the Atlantic, will know that human skill and knowledge have provided them with a warning light as perfect and powerful as human ingenuity can devise. Moreover, the ex-focal light will be diffused to a greater extent than it was before; and, although no lighthouse illuminant has yet been produced that can satisfactorily penetrate fog, yet this ex-focal light, obtained as a useful quantity when gas is burned, may be relied upon to illumine the fog to some extent, and so show the approximate position of the friendly lighthouse."

FINE WEATHER.—Now is the time for Painting all outdoor work that requires protection from the weather. All who intend Painting should write to CARSONS, Bachelor's Walk, Dublin, for their new price list with patterns of a hundred shades of Paint, all prepared so that any person can apply them. The simplest, cheapest, and most durable to be had.

Illustrations.

ST. MICHAEL'S CHURCH, NORTH ANNE-STREET
NEW FACADE IN HALSTON-STREET.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 788.

Old Dublin :

A Bit of the City in the early years of the past Century.

ILLUSTRATING the present issue of our journal is:—“*A Prospect of the Custom House and Essex Bridge, as they stood in the year 1706.*” The view has been photo-lithographed from an original engraving in the possession of Mr. Thomas Drew, R.H.A. The following particulars will be read with interest.

THE CUSTOM HOUSE.

Until the commencement of the seventeenth century there were no houses built on the northern side of Dame-street; all that portion of ground on which the present Essex-street, Crampton-court, and Crane-lane are now built upon, was then part of the south strand of the Liffey, under the dominion of water. On Speed's Map of Dublin, 1610, there is shown a small harbour at the foot of Dames Gate, at the southern end of the present Crane-lane. From this harbour, it is said that John Alan, Archbishop of Dublin, in 1534, took boat, to escape from “Silken Thomas” (Fitzgerald), then in arms against King Henry VIII.

About the time of the Restoration (1660) Dames Gate and that portion of the city wall lying between it and Newman's Tower were taken down, the old harbour filled up, and on its site a new Custom House was built; but, in consequence of its distance from the river, it was before long found unsuitable for its purposes, and was subsequently demolished.

In 1676 a new bridge was built over the Liffey by Sir Humphrey Jervis, with the stones of portion St. Mary's Abbey. It was called “Essex Bridge,” after Arthur Capel, Earl of Essex, who was then Lord Lieutenant of Ireland; hence Capel-street, Essex-street, and Essex-gate. The erection of Essex Bridge caused the river on the eastern side to be considerably narrowed, so much so that a new line of street was opened on the northern side of Dame-street and parallel with it, since known as Fleet-street, Temple-bar, and Essex-street.

In 1706 a new Custom House was erected on the eastern side of Essex Bridge,* its principal entrance being from Essex-street; there was also an entrance from Essex Bridge, through a narrow passage, descending by a flight of stone steps. The building, which was handsome in design, was bounded on the north by the Custom House-quay (about 65 ft. from the river), on the east by the Poddle River, on the south by Essex-street, and on the west by a block of houses which stood on the east side of Essex Bridge [now a portion of Parliament-street] from the quay to Essex-street. The building was about 120 ft. in length, 54 ft. in depth, and 40 ft. in height. The lower storey was an arcade of cut stone, pierced with fifteen bays, having a large gateway from an entrance from Essex-street; the other two storeys were built of brick, and contained fifteen windows in each storey on the principal front facing the river. A clock was placed in a triangular entablature, protected by projecting cornices in the centre of the top

of the northern front, on a level of which, on each side stood on the roof ten elevated dormers surmounting the windows beneath them. There is also a similar view of the elevation of the building given on Charles Brooking's Map of Dublin, 1728. Public displays of fireworks were exhibited on the Custom House-quay on the Proclamation of Peace between France and England in 1713; and also in the following year on the Coronation of George I. In 1763, on the anniversary of King George the Third's birthday, the Hon. John Ponsonby, Speaker of the Irish House of Commons, gave a magnificent entertainment at the Custom House to the members of the House of Commons and many of the nobility. On this occasion the front of the building next to Essex-street was covered with most elaborate devices, and illuminated with above two thousand lights.

In 1765 the Custom House was almost universally admitted to be located in a situation insecure for the safety and convenience of the shipping trade, which at that time began to increase in the harbour of Dublin. Vessels of what was then considered large build, or 170 tons burthen, were unable to come up to the Custom House to discharge, owing to the large mass of rock, known as “Standfast Dick,” extending westward from Liffey-street to the mouth of the Poddle river. It was then proposed to double the extent of the Custom House quay by adding to the ground lying between the Custom House and Temple-bar slip (since known as Bagnio-slip), but this project was also found to be impracticable, as to carry it out would have necessitated the removal of a large portion of the bed of rock already noticed, on which, at high tide, there were but 5 ft. of water.

In 1773 the upper part of the Custom House was found to be unsound, and the Revenue was obliged to rent additional warehouses on the Blind-quay (now Upper Exchange-street), which rendered it imperative either to repair and extend the Customs buildings, or to erect new ones on another site.

The navigation to the old Custom House being difficult and unsafe, from the interruption of the channel of the river by the rock called *Standfast Dick*, and that edifice being not only in a state of decay, but exceedingly inconvenient, from want of sufficient quay and warehouse room, it was resolved to build another which should better answer the increased opulence of the city. Accordingly, a plot of waste ground on the north side of the river was considered by the Commissioners of Revenue as an eligible situation, from its vicinity to the bay, and the breadth of the river there, to which the navigation is uninterrupted from the harbour. The work of building a new Custom House was accordingly commenced, the first stone of which was laid, without any ceremony on the occasion, on the 8th of August, 1781.

About 1816, the Wide Street Commissioners removed the obstruction at both ends of the Custom House-quay, and called it Wellington-quay, in honour to the Duke of Wellington, and let the ground thus formed and the old Custom House-quay for building. About the year 1829 the Messrs. Harvie and Co. built a large commercial establishment on Wellington-quay (on the site of the old Custom House-quay) which was, we believe, the first “Monster House” in Dublin; they also extended their premises back into Essex-street, thus converting portion of the old Custom House into warehouses. This large establishment subsequently passed into the possession of Messrs. Scott, Bell, and Co., but that company retiring from business the premises were put into the market for sale, and were purchased by Mr. Dollard, printer and stationer, Dame-street, who erected the present substantial building now known as “PRINTING HOUSE.” When the process of demolishing the old buildings was commenced, the workmen laid bare the foundation wall on the south front of the Custom House, facing Essex-street. At a

depth of 4 ft. 6 in. from the present level of Essex-street was discovered the first course of the building, composed of handsome chiselled black limestone, moulded on the edges, and indented at intervals, which formed the level of the street at that time.

ESSEX BRIDGE.

This bridge, as shown in our illustration, was built in the year 1786, by Humphrey Jervis (afterwards knighted when Lord Mayor of Dublin in 1681), in the government of Arthur Capel, Earl of Essex, Lord Lieutenant of Ireland, and named after him. Sir Humphrey, in order to provide building material for the new bridge, demolished all the old buildings of St. Mary's Abbey, which, until that period, were in a fair state of preservation; and used the stones of that ancient monastery in building the bridge. On the 4th and 5th of December, 1687, or eleven years after its foundation, there came a great fall of rain, and a violent storm E.S.E., which caused such high tides in the river, that both tide and land floods coming together, raised the water to such a prodigious height, as quite overflowed the lower parts of the city. In some houses the water actually rose up to the parlour floor, and on some of the quays much higher, so that boats plied in the streets for the conveyance of passengers.

At this time there happened to be a hackney-coach driving over Essex Bridge, but providentially there happened to be no passengers in it, and as they were just on the crown of the last arch but one, north side, the bed of the river, under the eastern pier, being carried away by the floods, the pier fell down and so down came the arch, the coach, coachman, and the two horses, and all together were swept down to the Watering-slip, subsequently known as Bagnio-slip, at the western end of the present Crampton-quay. The coachman clung fast to the box, sometimes under and sometimes over the water, till they came to the Slip, where one of the horses broke his traces and swam out, but the man and the other horse were drowned. Some people were superstitious enough to attribute the above accident to the new bridge as a divine retribution for the desecration of old St. Mary's Abbey. The fate of the undertaking of this bridge was also remarkably unlucky. Sir Humphrey Jervis, from a mistake in his estimate of the cost of building the bridge, lay in gaol for several years for debt; and Robert Mack, a skilful mason, who executed the work to the satisfaction of the public, was a considerable loser by a mistake in the contract, as well as some untoward accidents; and, were he not more fortunate in his credit than his engagement, must have undergone the same fate.

The damage done to the bridge was soon after repaired; but, in 1753, it being in a dangerous state, was taken down, and on its site a new and larger bridge had been erected by George Sempé. When the old bridge was taken down, the equestrian statue of King George I., which stood on a pedestal on the west side of the bridge (*vide plate*), was taken down, and is now in the Mansion House garden, where his Majesty is looking over the garden wall into Dawson-street.

In 1872, the old Essex Bridge which was erected by George Sempé, was condemned by the Corporation of Dublin, as being too high and too narrow for the increasing traffic across it. It was accordingly taken down, and the present bridge, designed by Mr. B. B. Stoney, Engineer to the Port and Docks Board, was built by Mr. W. J. Doherty. It is 200 ft. in length, with roadway 50 ft., and to that is added two footways 12½ ft. each in width, making a total width of 75 ft., or 25 ft. broader than the old bridge. The height above high-water mark is 8 ft.; the gradient has been reduced by about 9 ft., and the present bridge is almost level with Capel-street and Parliament-street. It was re-opened on the 1st October, 1874, by Peter Paul McSwiney, then Lord Mayor of Dublin, who, with the consent of the Port and Docks Board, changed the name of the new bridge to GRATTAN BRIDGE.

* The portion of street from the foot of Essex Bridge to the intersection of Essex-street and Essex Gate (Parliament-street) not having been formed until 1776; the Corporation, in 1884, changed its name, and merged it into Parliament-street.

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.

(Continued from page 206.)

HAVING thus far traced the history of St. Michan's parish through all its vicissitudes from the earliest period to the present time, we must now bring it to a close. As our task has not been an easy one, our readers are asked to pass over lightly whatever failures or faults they may find in these memoirs. We deem it necessary, however, to add the following additional matter, which will render the history more complete.

CORRIGENDA ET ADDENDUM.

CORRIGENDA.

Page 144, col. 3, l. 28—for "the election of his successor, *Most Rev. John Linegar*," read "until the appointment of his successor, *Most Rev. Luke Fagan*, who was translated from the See of Meath." Dr. John Linegar succeeded to the Archbishopric of Dublin, by Brief, dated 20th March, 1734, Luke Fagan having died in the November of the preceding year.

Page 174, col. 2, l. 10 from bottom—after "celebrated," add, "This chapel is still preserved in the Richmond Surgical Hospital, North Brunswick-street, and is known as 'Chapel Ward.'"

Page 185, col. 1, l. 11—after "Jesuits' Chapel, Mass-lane," *dele* "by the Protestant Dissenters in 1747," and add the following note:—

We are unable to identify the site of the Jesuits' Chapel in Mass-lane. In 1612, when the old Dominican Priory and Church had been converted into the "King's Inns" by King James I.'s Attorney-General, Sir John Davies, the old chapel, which was situate at the eastern end of the Priory (which was probably built by the Dominicans for the use of the laity who dwelt near its vicinity), was fitted up, by the lawyers, as a chapel, where they attended divine service at the commencement of each term, and to which they appointed the celebrated James Usher to be their first chaplain, which office he held until his promotion to the See of Meath in 1620.

When James II. came to Dublin in 1688, he restored the old priory (then the King's Inns) to the Dominicans, who were then residing in Cook-street, in St. Audoen's parish; and gave the old chapel to the Jesuits, where he usually attended Mass during his brief *regimé* in Dublin. Duhigg, in his "History of the King's Inns," tells us that "King William, after the Revolution, presented the chapel, with the society's consent, to *French Huguenots*, who wanted a place of prayer, as that small but brave body contributed to the national triumph, it was due both to their services and sufferings." This new French congregation, who were Calvinists, is not to be confounded with French Refugees, Protestant Episcopalians, who settled in Dublin at the time of the Restoration of Charles II., and to whom was given, in 1663, the chapel of St. Mary in St. Patrick's Cathedral, which they fitted up for divine service, performed in the French language. St. Mary's chapel continued to be a French church until the year 1816, when that congregation finally died out.

We do not know how long the Calvinist Congregation remained in the chapel of the

King's Inns, but certainly they were in it in 1703, because we find in the "Abstracts of the Conveyances from the Trustees of the Forfeited Estates and Interests in Ireland," that, in the year 1703, the trustees sold to the "Hollow Blade Company," together with other estates, "All that part of the Chapel near the Inns on Ormond Key [now Inns'-quay], called the Jesuits' land, now used for a French church,—the estate in fee of Thomas Sutton, attainted." (*Inrolled 9th Oct., 1703.*) The Jesuits, after having been expelled in 1690, settled somewhere in the vicinity adjacent to their old chapel, near Pill-lane. In the *London Magazine and Monthly Chronologer*, for January, 1744, we find it recorded, that on "Sunday 27th January, All the Mass-houses being shut up by an order of the Government, an old house in *Pill-lane*, where a Priest was officiating Mass, fell down, by which accident he, and nine others, were killed, and several hurt."

Mass-lane.

A narrow lane extended from the quay to Mountrath-street, in which lane the Old Dominican Chapel stood. Dr. J. J. Digges LaTouche is of opinion that the original name of this lane may have been *Golblac-lane*, from documents in his possession, in which it is mentioned that the Huguenots built a meeting-house there in 1693. Since that time, however, we find it called *Lucy-lane*, and subsequently *Mass-lane* from the Jesuits' Chapel, in or near Pill-lane; by the latter name it was known until about 1824, when it was widened by the Wide Streets Commissioners, and re-named Chancery-place.

The old chapel in Mass-lane continued to be used by the Benchers of King's Inns until about the year 1746, having for its last Chaplain Dr. Caleb Cartwright, T.C.D., who received a College living, and also held the Prebend of Clonmethan, in St. Patrick's Cathedral, until his death in 1763. During Cartwright's chaplaincy, the Society of King's Inns vacated their chapel in Mass-lane, and frequented the old parish church of St. Michan.

In 1746, the Rev. Messrs. Black, Clarke, Main, Hume, Arnot, and Reid, came over from Scotland, and formed the first congregations here of a religious sect known as "Burghers," in the north of Ireland, a community of whom came from thence to Dublin, and settled in Mass-lane. They were all Calvinists in doctrine, and Presbyterians in discipline.

The site of the old chapel in Mass-lane was on the west side, and about 25 yards from the Inns-quay. In 1822, the Government contemplated a plan for isolating the new Four Courts, by demolishing the surrounding houses and other buildings, on the west side of Mass-lane, and of those at the rear of the south side of Pill-lane (see the Map of these proposed improvements annexed to the first vol. of Public Records Report, p. 469). Hence we find that in January, 1822, the Secretary of King's Inns informed that Body that he received a letter from the Commissioners of Wide Streets, with respect to the isolation of the Four Courts, requesting an immediate decision, so far as related to the site of the Meeting-house adjoining the Four Courts, and enclosing a copy of a Memorial from the Ministers, Elders, and Congregation of that Meeting-house on the subject, copies of which letters and Memorial he had immediately transmitted "to Mr. Sandes, to lay before the Benchers, and that in the

month of August last, he had received another urgent communication on the subject, all of which he then laid before the Board." The Wide Street Commissioners immediately took down the entire block of buildings on the west side of Mass-lane, including the old Meeting-house, and named the new thoroughfare, as we have already stated, *Chancery-place*.

From the foregoing extract we are of opinion that subsequent to the year 1690, no Roman Catholic service was performed in the old Dominican Chapel in Mass-lane, in which, until its destruction in 1822, only Protestant services of some kind or another were held.

ADDENDUM.

P. 174, col. 2, l. 46—after "*Benedictine Convent in Channel-row*," add the following:

In 1688, King James II. wrote to Dame Mary Butler (then lately elected Abbess of the Irish Nunnery of Ypres) to leave Ypres, in order to found a convent of her Order in Dublin, which she accordingly did. On her way to Dublin, she passed through London, where she waited on the queen at Whitehall, in the habit of her Order, which had not been seen there since the change of religion. Her ladyship also was most courteously received by the Queen Dowager, who, in testimony of her affection, made her a present of some altar-plate and church ornaments. From thence Lady Butler proceeded to Dublin. On her arrival she was introduced by their Graces the Duke and Duchess of Tircconnell to his Majesty, who most graciously received her, promising his royal protection, and granting a most ample patent for the erection of a royal convent, with several privileges both for herself and her successors, to which was added a free permission to settle or establish themselves in any part of Ireland, concluding the whole with an assurance of a foundation.

The Charter of a new Benedictine Nunnery in Dublin.

"JAMES II., By the Grace of God, King, &c., To all, &c., Greeting—

Know YE, that we, of our special Grace, certain Knowledge, and meer Motion, HAVE granted, declared, ordained, and appointed, and by these presents we do, for us, our Heirs, and Successors, grant, constitute, ordain, declare, and appoint, that there shall be from time to time, and at all times hereafter, in our City of Dublin, or in any other convenient place in our Kingdom of Ireland, A CONVENT of NUNS of *St. Benedict*, consisting of one Abbess and Nuns, and to be called and known by the name of the Abbess and Convent of our first and chief Royal Monastery of *Gratia Dei*.

AND we do for us, our Heirs and Successors, ordain and declare by these presents, that within the said Convent there be one free Body Politick and Corporate, consisting of one Abbess and Nuns, and that all the Novices, when professed, shall be professed Nuns of the Order of *St. Benedict* in the said Monastery of *Gratia Dei*, and shall be for ever hereafter by virtue of these presents one Body Politick and Corporate, in matter, cause, and name, by the name of Abbess and Convent of our first and chief Royal Monastery of *Gratia Dei*, and that they shall by the said name of Abbess and Convent of our first and chief Royal Monastery of *Gratia Dei*; and that they shall by the said name be one new Body Politick and Corporate, in matter, cause, and name to the full: AND

that they by the name Abbess and Convent of our Royal Monastery of *Gratia Dei*, may have perpetual Succession, and that they may be from time to time, and at all times hereafter, Persons capable in law to have, receive, and possess Lands, Tenements, and Hereditaments, Goods and Chattels of what kind soever, and capable to receive and acquire to them and their Successors all sorts of Gifts, Legacies, Oblations, and Grants, of what kind soever, to them and their Successors, either from us, or from any other Person or Persons whatsoever; and to build a Monastery, and have a house and garden in our said City of Dublin, or elsewhere within this our Kingdom of Ireland; and that they by the name aforesaid may plead and be impleaded, answer and be answered, defend and be defended, before us, our Heirs and Successors, and before any of the Judges of us, our Heirs and Successors, in all sorts of Actions, Plaints, and demands whatsoever, against them, or to be brought by them in this Our Kingdom of Ireland.

AND we do of our like especial Grace, certain Knowledge and meer Motion, for us, our Heirs and Successors, give and grant, that the Abbess of the said Convent, and her Successors for ever, shall be constituted and chosen in such manner and form as hereafter in these presents is expressed, and specified. And that for the better execution of the Premises, and for the good Rule and Government of the said Monastery from time to time for ever, we have assigned, named, ordained, and constituted, and by these Presents for us, our Heirs and Successors, we do assign, name, ordain, and constitute, our well beloved Dame, Mary Butler, to be the first Abbess of the said Monastery of St. *Benedict*, willing that the said Mary Butler be and shall continue Abbess of the said Convent during her life; and if the said Abbess shall happen to die, or be removed for reasonable Cause, that then and so often it shall and may be lawful for the Nuns of the said order of St. *Benedict* to go to a new Election of an Abbess according to the rule of St. *Benedict*. AND ALSO we have assigned, named, ordained, and constituted, and by these presents we, for us, our Heirs and Successors, do assign, name, ordain, and constitute our well beloved Margaret Marcum, and Mary Lawson, to be the first two Nuns of the said order of St. *Benedict* in the said Monastery, to continue therein during their lives, if not removed for some reasonable Cause.

AND further we do for us, our Heirs and Successors, grant, that the said Abbess and Convent shall have a common Seal of the same form and impression, as they shall think fit, for the affairs of the said Monastery; and that the said Abbess and Convent, and their Successors, for ever, as often as they shall see occasion, shall have power to choose, receive, and profess Novices, and other Persons, according to the Rules and Constitutions of St. *Benedict* aforesaid; and power to them to make such Rules and Orders for the better Government of the said Monastery, and the persons therein residing, as they shall think meet, so as such Rules shall be consonant and agreeing to the Rules of St. *Benedict*.

AND further, our Will and Pleasure is, and we do hereby for us, our Heirs and Successors, for the better establishment and maintenance of the said Abbess and Convent, and their Successors, give and grant unto them an

annuity of £100 Sterling, to be paid to them and their Successors every year for ever out of the Receipt of our Exchequer, at two different terms, viz., at Christmas, and the Feast of St. John Baptist half yearly, by even and equal moieties, the first payment thereof to be made at the Feast of our Lord Jesus Christ next ensuing the date hereof.

AND we do further, for our Heirs and Successors, grant, that the said Abbess and Convent shall enjoy all and singular the premises, without any taxes, exactions, or subsidies whatsoever.

AND further of our especial Grace, certain Knowledge, and meer Motion, we have given and granted, and by these presents do give and grant unto the said Abbess and Convent, and their Successors for ever, that these our Letters Patent, and the enrolment thereof, shall be in all things firm, good, valid, sufficient, and effectual in Law, unto them the said Abbess and Convent, and their Successors, and shall be construed and interpreted in as favourable, benign, and gracious manner and form, as they may be, as well in our Courts within our said Realm of Ireland, as elsewhere, to the best advantage, benefit, and behoof of the said Abbess and Convent, NOTWITHSTANDING the Statute of Mortmain, and notwithstanding any other cause, matter or thing to the contrary. PROVIDED always, that these our Letters Patent be enrolled in the Rolls of Our High Court of Chancery in this our Kingdom of Ireland within the space of six months next after the date of these presents. Although no express mention, &c.

IN WITNESS whereof we have caused these our Letters to be made Patent.

WITNESS our self at Dublin the Fifth Day of June in the Sixth Year of our Reign.

*Irrot. 15th Junii Anno R. Rs. Jacobi
Secundi, Sexto.*

This Patent, which has the King's great seal affixed to it, is still preserved in the Irish Abbey of Benedictine nuns in Ypres.

In 1689, the new convent was opened, and Lady Butler, together with some other Religious, whom she brought from the English Benedictine Nunnery of Pontoise, took up their abode. During her short stay in Dublin, there were thirty young ladies, of some of the best families in Ireland, entrusted to her care for their education, eighteen of whom earnestly postulated the veil and habit, but were absolutely refused, on account of the war of the Revolution being so far advanced. The only one who was professed was a lay sister, who accompanied the abbess from Ypres. The king honoured the ceremony with his presence, and from his royal hand she received the veil.

After the Battle of the Boyne (July 1st, 1690, O. S.), King William's army entered into Dublin, and some of the soldiers sacked the convent, and seized on the church plate, which had been removed to a Protestant lady's house in the neighbourhood. The abbess therefore resolved to hinder a further profanation by throwing into the fire whatever remained. She then determined no longer to stay in Ireland, and therefore applied to the Duke of Ormonde, who was her near relation, for a pass to return to Ypres. His Grace shewed concern for the usage she had met with from the soldiers, and endeavoured to dissuade her from that resolution, offering, if she would stay, to procure for her a strong protection, which she positively refused; and having obtained a

pass for herself and her religious, they put to sea, and at length arrived at her old refuge in Ypres, of which she most prudently kept possession, and there lived till her death, which happened on the 23rd December, 1723, in the 82nd year of her age, and in the 66th year of religion. Such was the brief history of the Royal Convent of Benedictines, in Channel-row (now North Brunswick-street), which Harris, in his edition of Ware's *Antiquities of Ireland*, summarises as having been "founded by King James II., 6th June, 1688; and *con-* founded by King William, 16th July, 1690."

The Dominican Nuns come from Galway.

P. 174, col. 2—after note at bottom, add the following:—

Hardiman, in his "History of Galway," gives the following account of the Dominican Nuns:—"In 1644, the affairs of the Catholics of Ireland, and particularly the Dominicans, were in a flourishing state; but there was no convent of that Order in Galway, until the inhabitants of that city, by the consent of the General and Provincial Chapter, founded a nunnery. When the town was taken by Cromwell's forces in 1652, the nuns, with their chaplain, Father Gregory O'Ferrall, went to Spain. Two only of the number survived, namely, Julia Nolan and Maria Lynch, who returned to Galway in 1686, by direction of John Browne, Provincial of the Order in Ireland. On their arrival, the former was instituted prioress and the latter sub-prioress; a house having been provided for them in the town, the community soon increased, and, before the end of two years, was effectually re-established.

"In 1698, they were again dispersed. It was most deplorable, says the historian of these melancholy scenes, to witness the cries and tears of these distressed females, by which even their very persecutors were moved to compassion. The convent was converted into a barrack; but the nuns remained secretly in town, amongst their friends, under the direction of their prioress, Julia Nolan, who was released by death from all her sufferings, in 1701, at the age of ninety years, and was succeeded by the sub-prioress, Maria Lynch. They were soon after obliged to quit the town altogether, and seek refuge among their relations in the country, without the most distant hopes of being ever able to return. In this forlorn situation, the Rev. Hugh O'Callanan, the then Provincial of the Order, having obtained permission from the Most Rev. Dr. Edward Byrne, R. C. Archbishop of Dublin, to admit them into his diocese, eight of the dispersed nuns repaired to the capital, where they arrived in March, 1717, and dwelt together in a house in Fisher's-lane [now known as St. Michan's-street], on the north side of the Liffey. In September following they removed to the late Benedictine Convent in Channel-row, where they originated the convent of *Jesus, Mary, and Joseph*, of Dublin. (For more of the Dominican nuns in Dublin, see p. 174 *supra*.)

In a series of articles contributed to the *Irish Ecclesiastical Record* for this present year, on "Thomas De Burgo, author of the *Hibernia Dominicana*," by the Rev. Ambrose Colman, O.P., Kilkenny, we find in the July number of that periodical, where the writer says that "eight nuns, amongst them Catherine and Mary Plunkett, nieces of the martyred prelate [Dr. Oliver Plunkett], took up their abode in a small house in Fisher's-lane, on the north side of the Liffey. After

remaining there a few months, they changed their residence to a little back street, called Channel-row." But, in the succeeding number of the *Record* for August, we find where the same authority says that a convent of nuns of the Dominican Order was founded in Drogheda, about 1718, by Stephen M'Egan, in conjunction with the Archbishop of Armagh; and that "Catherine Plunkett, a niece of the martyred prelate, had been brought over from Brussels to preside over the new foundation, an office which she continued to hold till her death thirty-five years afterwards. She carried with her the head of her uncle enclosed in a shrine, and it is religiously preserved in the convent to the present day." Evidently either of these two statements must be incorrect, as the dates of the two foundations (Dublin and Drogheda) are given about the same year, so that if Catherine Plunkett came to Dublin from Galway in 1717, she could come to Drogheda from Brussels in same year. James Hardiman, in his *History of Galway*, from which we give the above account of the Dominican nuns, does not give the names of any of those who came to Fisher's-lane, and it is very probable, if such noted persons as the Misses Plunkett were among them, that eminent historian would not omit giving their names.

Convent of Poor Clares.

There was a second Benedictine nunnery erected on the north-west side of North King-street, a few years later than that of King James's foundation in Channel-row, and was dedicated to St. Bridget. Its first abbess was Dame O'Ryan, a religious lady of Ireland, who took the Benedictine habit, professed in the English nunnery of Dunkirk, with two novices, and were encouraged and favoured by Archbishop Russell. It subsisted but for a short time, Dame O'Ryan having returned to her convent at Dunkirk, where she died. It was subsequently taken possession of by the Poor Clares, an order of St.

Rancis, who continued there until the close of the last century, when it was converted into a retreat for widows and other females of a respectable class, who were able to pay for their board and lodging. On the site of this convent, the entrance to which was from North King-street, was subsequently erected a large metal foundry, known as Nos. 104, 105, and 106, by William Turner, of Hammersmith Works, Ball's Bridge.

The Rev. Dr. Burton, in his "Oxmantown and its Environs," says that this latter Benedictine Nunnery "had been previously the country seat of an Attorney-General of Ireland; and that here the Duchess of Tyrconnell shrouded the wreck of her ambition, and died in penitence and peace." Sir Bernard J. Burke in his "Reminiscences," says:—"A story is current, but not authenticated, that after the death of the Duke of Tyrconnell (1691), the Duchess determined to remain abroad till the dispersion of the Court of St. Germain, and the marriage of her daughter S. . . . Narrow circumstances were now her lot, and to such straits was she reduced, that she was glad to avail herself of the kind support of the Jacobites, and of £400, generously awarded out of the pension which James II. received of the Pope. In 1708, she was in England, and had a private interview with her brother-in-law, the Duke of Marlborough, then at the height of his power. . . . And by the interest of her brother-

in-law and sister, she obtained a small portion of her husband's property, as well as permission to reside in Dublin, a city endeared to her for that husband's sake; and on the site of her house she established a Nunnery for Poor Clares. At length she closed her sad eventful history at her residence near the Phoenix Park, 6th March, 1731, in her 82nd year."

Page 174, col. 3, l. 9—after "Widow Linegar's, in Church-street," add the following notes:—

"Mrs. Linegar was probably the mother of Rev. John Linegar, who was for many years curate of St. Michan's parish, afterwards the first parish priest of the new parish of St. Mary's, and subsequently Archbishop of Dublin, from 1734 till his death in 1757. Mrs. Linegar lived in Church-street (east side), and her garden extended backwards to the rear of the houses in Cow-lane (now Greek-street). In the "Grants of Lands and other Hereditaments under the Acts of Settlement and Explanation, 1666-1684," we find that one John Burgesse, of Dublin, obtained a grant of "one messuage, containing several tenements, and a large piece of ground, with several coach-houses and stables thereon, viz., one small tenement fronting Pill-lane; a small tenement adjoining to the former, fronting to Pill-lane; a waste piece of ground beyond said tenements fronting to Pill-lane, containing about 16 ft. to the front; a small tenement behind the said waste ground; a tenement fronting to Cow-lane, behind the two first; a small tenement fronting to Cow-lane, adjoining to the former; a small tenement beyond the same, fronting Cow-lane. A large waste piece of ground, containing eight perches in length, in the N. mearing with Michael Tisdall's orchard and garden, containing 62 ft., to the E. mearing with the king's pavement in Cow-lane, containing 62 ft., to the W. mearing with the houses belonging to Mrs. Linegar, Mrs. Mapas, and the Guild, containing to the S. eight perches, mearing with the houses fronting Pill-lane, in which piece of ground are two stables and coach-houses; in Pill-lane and Cow-lane, in Oxmantowne, City of Dublin." (Dated 12th August, 31 Charles II. Inrolled 17th October, 1679.)

Apropos of the name *Linegar*, the following amusing anecdote is told of the Archbishop, in the first vol. of the *Dublin Penny Journal*, p. 56:—"Dr. Linegar, a titular archbishop, a man of very lively parts, happened in a mixed company to be introduced to a Mr. Swan, a gentleman of a cynical turn, whose practice it was to attempt to raise a laugh at the expense of some of the company. They sat near each other at table, where the doctor engaged general attention by his sprightly manner. Mr. Swan, to silence him, said, 'Dr. —, I forget your name.' 'Linegar, sir,' returned the doctor. 'I ask your pardon,' replied Swan, 'I have the misfortune scarcely ever to recollect names; you'll not be offended, therefore, if in the course of conversation, I call you Dr. Vinegar?' 'Oh! not at all, sir,' returned the doctor, 'I have the very same defect; and it is very probable, though I now name you Swan, I may by and bye call you Goose!'"

P. 189, col. 2—after last paragraph add the following:—

In the early days of this century, a concert was given for some charitable object, in the old Chapel of Mary's-lane, at which the

renowned Madame Catalani sang. Two persons sat beneath the altar, who talked incessantly and heeded not the strains of the great songstress. They were doubtless conversing anxiously about the distracted state of the country. These two were, Dr. Troy, Archbishop of Dublin, and Henry Grattan. The authority for this statement is the late Venerable Dr. M'Keever, of Cavendish-row.

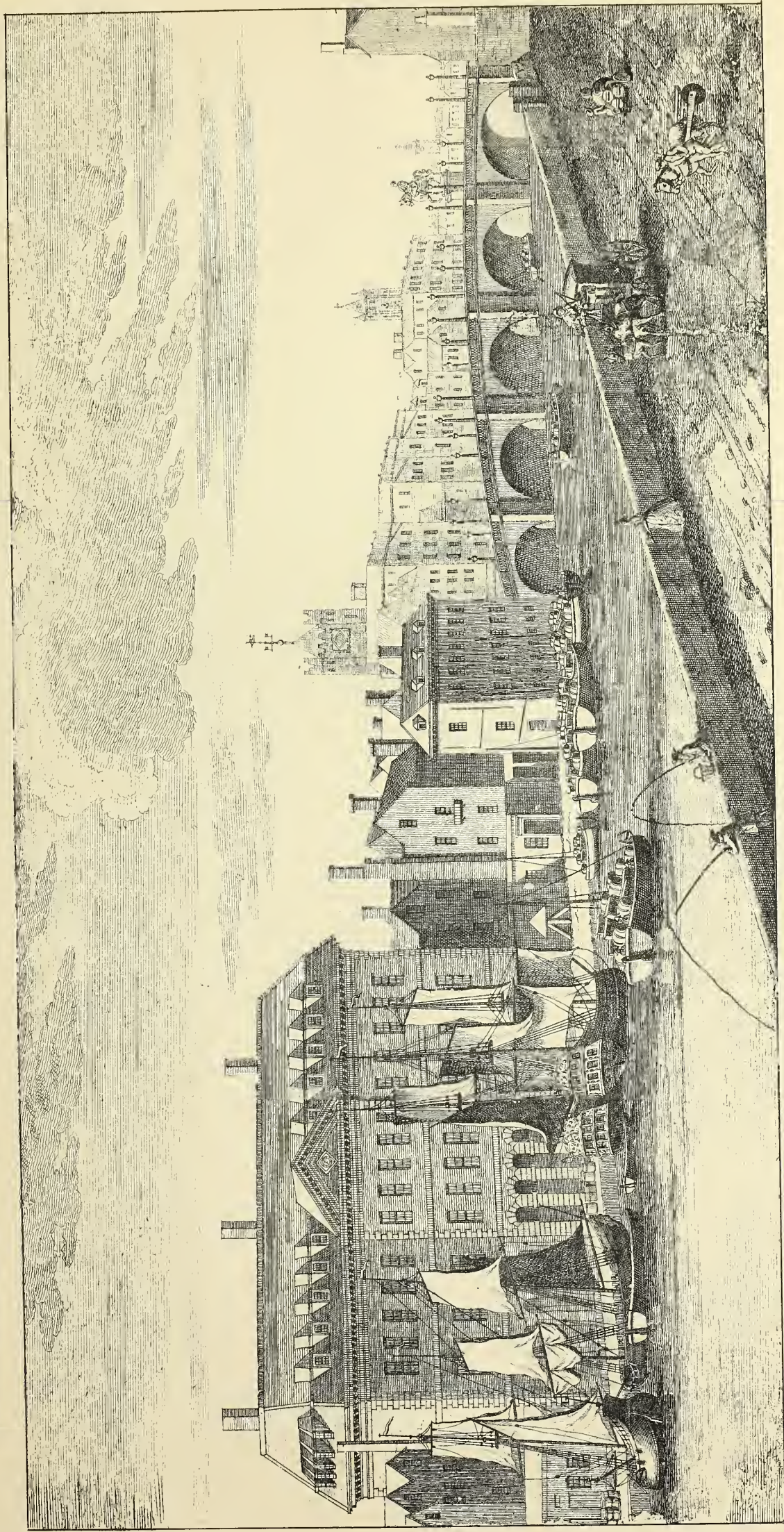
[In our next issue we propose to publish, as an Appendix to our History of St. Michan's, the Registry of the parish from the year 1726 up till 1800. As this document has not hitherto appeared in print, we hope it will be welcomed by our readers of all classes, as an historical record worthy of dissemination through the columns of the Press.—Ed. I. B.]

(To be continued.)

NEW NOVITIATE FOR THE PRESENTATION BROTHERS, CORK.

On the highest point of the north-western suburb of the City of Cork there once stood, we are told, a Franciscan Abbey. On this eminence—known as "Prayer Hill"—a large building has been for some time in course of erection, for the purposes of a Novitiate for the Presentation Brothers. The following particulars of this building have been furnished to us:—

Approached by a steep ascent from the upper end of Blarney-street, and situate partly within and partly without the borough, the Novitiate will present a front elevation of noble dimensions and elegant design, in which there is a happy blending of the domestic with the ecclesiastical style of architecture. The façade extends about 190 ft., and rises to the top of the highest gables, with which the front terminates, a height of nearly 120 ft. It has three storeys, indicated by string-courses, and pierced by fifty windows, single and double lights, of exceedingly graceful form. The main entrance is in the centre of the façade, opening into a spacious entrance hall, on either side of which is a visitors' parlour, 21 ft. by 15 ft. From the entrance hall, access is gained to an 8-ft. corridor, extending the full length of the building, leading to two study halls, each 30 ft. by 21 ft., and beyond them, at the opposite angles of the ground floor, a community-room 25 ft. by 23 ft., and a dining-room of like dimensions. At each end of this main corridor is a side entrance door. The return of the corridor at the western end gives access to the refectory, a noble apartment, 50 ft. long by 25 ft. wide, and beyond that to the kitchen, scullery, and bath-room. At the eastern end of the main corridor, a shorter passage conducts to the vestibule of the chapel, and, through the vestibule, to the chapel itself, which is 70 ft. by 25 ft. in the clear, and will be an architectural gem, with deeply-recessed windows, and semi-hexagonal apse. To the chapel there will be a separate entrance from without, through the vestibule, already referred to; and over the vestibule will be situated a gallery for the use of the Superior-General and his assistants. Two ample staircases conduct from the ground floor to the first floor, on which are situated the first tier of cells, opening on either side of another spacious corridor. Each cell measures 11 ft. by 9½ ft., and is abundantly lighted and ventilated. At the eastern end of this floor are apartments for the accommodation of the Regime, by which term the reader is to



Photolithographed (for the "Irish Builder") from Original Engraving.

 **OLD DUBLIN.** 

A Prospect of the Custom House and Essex Bridge

(As they stood in the year 1706)

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understand the Superiors of the Order to be designated. A passage from these rooms leading to the chapel gallery, of which mention has already been made, on the upper floor is another series of cells of like dimensions. At south-west angle is an infirmary, 30 ft. by 25 ft. with nurses' room and bathroom adjoining. At the back of the building, midway on each corridor are lavatories, with ventilation lobbies intervening between them and the corridors, and the drainage is carried off from these direct without passing under any portion of the main structure. The building provides accommodation for a community of seventy novices, besides that intended for their superiors. The main walls are built of brown stone, procured from a quarry close to the building, and are being faced with red brick, while the string-courses, arches, doors and window-heads and corbels are terra cotta. The architect is Mr. Samuel F. Hynes, F.R.I.A.I., and the contractor, Mr. John Sisk, both of Cork. The cost is estimated at about £11,000.

BELFAST: ITS IMPROVEMENTS AND MAIN DRAINAGE WORKS.*

THE recent conference of the Association of Municipal and County Engineers, held in Belfast—part of whose programme was the inspection of the main drainage now in progress in that city, upon which £300,000 is being expended by the Corporation, under their Main Drainage Act (the works of which we give an abstract of farther on),—forcibly calls our attention to the rapid strides Belfast is making in material progress, creditable alike to its citizens, its Corporation, and Harbour Commissioners. When it is remembered that, at the beginning of the 17th century, it was a place of no note whatever, and only known as an important pass—*Beal na farsad*, literally “the mouth of the ford,” as crossing the Lagan to more important towns in Ulster. At that time, Sir Arthur Chichester, then Lord Deputy, and ancestor of the present Marquis of Donegal (when the country around was lying waste), succeeded in obtaining from James I. a grant in perpetuity of what the king called “an insignificant village,” and from this period forward its progress became truly remarkable, still in no way approaching what it has made in recent years, and now acknowledged as the third commercial city in the United Kingdom.

In 1758, the first Census of the town was taken, and found to amount to 8,549. In 1782, it had increased to 13,105. Coming to 1821, we find it 37,000; and, in 1891, 273,055 or more than seven-fold in seventy years, which is altogether unparalleled in Irish statistics. Few, if any, remains of antiquity so pleasing to archæological lore occur in the immediate neighbourhood of Belfast, or within its precincts. The ivy-mantled walls of the cathedral, or abbey with its ruined cloister, the round tower and cromlech—all are wanting, but Belfast contains within itself so many evidences of that progressive spirit which is essential to improvement, and which are there vividly portrayed in the costly works executed, all almost within the present century, for which it needed no extraneous aid; it is therefore confined to its own archetypal proclivities. Foremost amongst these we may mention the removal of old and dilapidated buildings in congested quarters, and the formation of

spacious streets lined with handsome erections, amongst which Royal-avenue, connecting Donegal-place with York-street by a thoroughfare 80 ft. in width, takes a most prominent rank. The widening of Queen's Bridge, and building of Albert Bridge; several hundred feet of quay walling, extensive covered public markets, the formation of Ormeau Park, enclosed and laid out in an area of 100 acres; Falls Park, Alexandra Park, Woodvale Park, Dunville Park, and 45 acres of a public cemetery, which forms an attractive feature in the suburbs; with public baths in three districts. These are all recent improvements. but the main drainage works now in full progress, from plans and under the direction of Mr. J. C. Bretland, the City Surveyor, and being executed by Messrs. H. and J. Martin, contractors, are, in point of hygienic utility, paramount to all. The following description of these works is taken from a paper read by Mr. Bretland at the Conference Meeting of Engineers, recently held in Belfast:—

“Hitherto the sewage of Belfast has been discharged into the River Lagan, causing a constantly increasing pollution of that river, which in latter years has become all but intolerable. So long ago as 1866, the late Borough Surveyor presented an exhaustive report recommending the intercepting of all the sewage of the borough and its discharge into the Belfast Lough at a remote place from the town, and the late Sir Joseph Bazalgette reported favourably upon this proposal. The Corporation, in 1870, promoted a Bill for carrying out this recommendation, including also proposals to reclaim a large portion of the tidal lands of the lough, with a view to using the land thus reclaimed for irrigation. The works embraced by this Bill were of such a costly nature, that they collapsed even before going into committee; but the question was again revived in 1885, when the author reported to the Corporation upon an amended scheme of sewage interception, which, after having been also reported on favourably by the late Sir Joseph Bazalgette, was adopted generally by the Council; but not until 1887 was the Belfast Main Drainage Act finally passed. For more than three years the author has been busily engaged in constructing the various works embraced by this Act of Parliament. The total cost is estimated at about £500,000, and up to the present time about half this amount has been expended. The scheme includes the interception of all the sewage now discharging into the river on both its sides, and the connection of the County Down side of the city with the County Antrim side by means of a syphon under the river. The main trunk sewers are two-fold, one a high level section, and the other a low-level section. The low-level section is pumped into the high-level at Duncrue-street in the northern portion of the city, and then flows down to a covered storage reservoir, which is designed to hold the accumulating sewage except between the time of high water and half ebb (thus securing the advantage of a strong ebb current carrying down the sewage towards the open sea), when it is discharged through a covered timber sewer built on the flats of Belfast Lough down to the deep water of Whitehouse Roads. This latter sewer is built altogether under low-water level, and has been a most difficult work to construct. A portion of the sewage flowing to the reservoir will discharge into the latter by gravitation, but the remaining portion requires to be pumped into it at an adjoining auxiliary pumping station. Of these works, the following are completed or now in progress:—The reclamation of about twenty-five acres of land from the tide to provide a site for outfall works, the construction of the timber sewer one mile in length, the covered reservoir, the outfall sewer, the high-level sewer, a low-level sewer, the Duncrue-street pumping station, and the auxiliary pumping station at the reservoir. The latter work and its accessories are being constructed on the twenty-five acres enclosure before alluded to. The remaining contracts for the continuation of the low-level drainage and the crossing of the River Lagan, together with various branches to complete the system of interception, will follow rapidly on. The main drainage works embrace many most difficult problems, involving special and costly adaptations to the peculiarities in connection with the strata and the physical contour of the city. As an illustration of this it may be observed that the storage reservoir and its accessories are erected entirely on a piled foundation, in

which about 7,000 piles have been driven. It should also be observed that, although the present intention of the Corporation is to discharge during a certain tidal term crude sewage into the sea, the Main Drainage Act provides for the reclamation of more ground from the lough, in view of the possible contingency of some system being thought advisable for precipitation or other mode of purification; but it is hoped that, as in the case of Portsmouth, the necessity for any attempt to treat the Belfast sewage by any special process may be indefinitely postponed, unless indeed some method can be devised whereby the Corporation could deal with the matter without serious cost to the ratepayers.”

Now Belfast is most advantageously situated, with miles of slob lands along the banks of its lough for utilizing its sewage matter; and it is to be regretted its enterprising citizens and their surveyor in this great work should pause in the expenditure of some additional cost in not at once adopting the recommendation of the Rivers Pollution Commissioners, who have reported “that no system was attended with better results than the filtration of sewage through a depth of soil.” This then means irrigation or sewage farming by first precipitating and deodorizing the sewage in setting tanks, and then applying it on the intermittent system to the land; and in a paper read by Dr. D. Edgar Flinn, before the Royal Academy of Medicine in May last, he states that:—“The process of irrigation on sewage farms is the one attended with the most beneficial results, as it not only secures a purified effluent, but, in most instances, become a source of profit, and utilizes the value of the sewage for the benefit of the crops grown on the land. But, to insure success, the surface must be irrigated on the intermittent system, to allow a sufficient aeration of the soil, and no doubt the best purifying results will be obtained by a combination of both methods, viz., irrigation and intermittent downward filtration. This system is in operation at Birmingham, Wolverhampton, Leamington Reading, Doncaster, Nottingham, Croydon Warwick, and other smaller towns.”

There are several systems of purifying sewage by precipitation and deodorizing, mentioned in Dr. Flinn's paper, which is now published in pamphlet form, where sketch plans and tables of results are given, and which we believe is accessible to all. Therefore, we consider discharging crude sewage into the sea requires consideration. If it can be made available at any reasonable cost for irrigation purposes, it will be far preferable than the present proposed method, which it is likely will destroy as summer resorts, Hollywood and Bangor, and, to some extent, Carrickfergus.

Sewage refuse is acknowledged to be rich in manurial value, after certain processes of deodorization. If placed under cover, it dries rapidly, and at Acton, Dr. Flinn states, it is sold in a fine powder for the large sum of 30s. per ton, which certainly ought to repay the cost of production. Now this powder, the result of precipitation, is by it deprived of all effluvia, and may be manipulated without leaving the slightest trace of odour; and in the pumping stations where it is produced, no exhalation whatever is perceptible even to those who are most susceptible, unlike in this particular the celebrated *poudrette*, which many years ago was manufactured outside Paris at the *voirce* of Montfaucon and at the Forest of Bondy, from the cleansing of the innumerable cess-pools of that city, and which was a highly-prized manure, yielding an enormous revenue to the *vidange* companies then existing.

* By WILLIAM HUGHES, Author of “Geological Notes of Ireland,” &c., &c.

ARCHITECTURE: AN ART, A SCIENCE, AND A PROFESSION.*

THE title of this lecture bears, as you will most of you recognise, a suggestively close likeness to a phrase which was used as the watchword of a recent newspaper controversy. It is not my wish to attempt to revive that controversy. It is not in my power to say anything about a more serious statement of views in a forthcoming volume which is not yet given to the public. But things have been written and published which, partly perhaps from their indistinctness, have left, or are liable to leave, the impression that there is a necessary difference between architecture as an art and architecture as a profession or as a science. I propose, therefore, this evening simply to state a few obvious truths about the nature of that profession on which you gentlemen are about to embark. In doing so I shall unavoidably have to repeat much that has been said by others. The excuse must simply be that it is necessary to say things which have been said elsewhere, in order to render my statement complete. Here, in this college, where architecture is one of the subjects taught and studied, it appears to me that at the present juncture a plain, definite statement of my views, if not imperatively called for, is at least very timely, and, if I must unavoidably go over ground which has been gone over before, I will at least endeavour to clothe the old truths in my own language.

It is not always advisable in a public address to lay down at starting the precise course which it is intended to take. There is an advantage, at least sometimes, in allowing that course to develop itself, without its being possible quite to anticipate what it will be; but to-night, for clearness' sake, I will at starting define exactly the objects in view. First, then, we will consider what is an art; we will examine the nature of an architect's work, and I will endeavour to show that architecture is justly an art. We will then consider what is a science, and will see in what respects architecture is a science. We will thirdly consider it a profession, and I will show you that the serious exercise of the art and science of architecture constitutes a profession. You will, perhaps, by this time see that the drift of the whole lies in the one short word, *and*. That wise fool, Touchstone, says that "there is much virtue in your *if*." At times there is much in your *and*, so I have ventured to substitute for an *or*, which insinuates doubts that I venture to call mistaken, the other conjunction which is meant to imply that there is no doubt at all. There will only be time at the close to allude in the briefest manner to your *preparation* for the exercise of this profession, by the pursuit of such studies as form the occasion of our meeting here this evening, and in other ways; but if I can draw for you a definite picture of what an architect has to do and ought to be, it ought, I think, to be helpful to students who desire to become architects, and, as I hope and believe, good ones.

An art has been defined as "the power of doing something not taught by nature and instinct." Obviously, no natural gift, no skill gained unconsciously, and in an natural way is an art. To take a very simple illustration, riding and swimming are often spoken of as arts, because we all acquire the power consciously and laboriously—not so walking or running, which may be said to be natural. "Art is not nature." The word *arts* in the plural has an extremely extended significance, and may be used to cover all the kinds of learning and knowledge that are called liberal pursuits. The word art, on the other hand, has often a narrow meaning, and is limited to the sort of skill which is directed towards objects of beauty. Art in this sense is a word which has been of late years on everyone's tongue. More correctly, this sort of art is called fine art, but we usually now refer to painting, sculpture, music, architecture,

and the related pursuits as pre-eminently the arts. This, however, is not strictly accurate. When we talk of an art it may or may not imply the possession and use of learning and knowledge, and it may or may not imply the exercise of trained and cultivated taste and the pursuit of beauty; but it always means a skill that does not come by nature. We talk of the art of the potter, the weaver, the navigator, the engraver, and, rising to a higher plane, we recognise the art of surgery, the art of war, the art of advocacy; but when what is the prime mover is no longer skill, but either learning, experience, money, or passion, the pursuit ceases to be thought of as an art. We do not, for example, talk of the art of a student, or an agriculturist, or a merchant, or a politician, although each of these must develop some skill in the exercise of other powers.

Though there be a distinction between an art as thus described and a fine art demanding cultivated taste as well as skill, the relation between the two is still very intimate; the links, for example, which connect the art of the sculptor with that of the jeweller, or even the potter, are close ones. There must be the same highly-trained manual skill, and the same intimate knowledge of the materials used. The same clear and definite perception of the aim to be attained is needed for success in either. In each of the two industrial arts I have named, pottery and the goldsmith's craft, the production of objects of beauty is also an aim of the artificer, and if in addition the pursuits of the sculptor be of a higher, more arduous, and more intellectual quality, that difference is more in degree than in kind. There is, of course, between most of what are sometimes called the industrial arts, taken as a whole, and the fine arts, a difference which is conspicuous enough, but it is not always recognised that the whole of the arts are connected together to a remarkable degree by the fact that trained skill is in each case indispensable to those who would pursue them, and that there is not often a hard-and-fast boundary line distinguishing the one from the other.

He that pursues an industrial art is called an artisan; he that pursues a fine art is called an artist; but many an artisan is an artist as well. The smith who hammers out a bit of red-hot iron into a horse-shoe, and replaces the one your horse has cast, is, perhaps, only an artisan. Yet, while you wait and watch him you are filled with admiration at the deftness, speed, and accuracy with which the work is done. Perhaps the same man can beat out for you a finial of wrought-iron round which he twines the vine leaf or the olive, and into which he infuses grace, beauty, charm. That man is then the artist, but his manual skill is an essential, integral part of his equipment for his art, although the taste, the feeling for beauty, and the knowledge of how to impart beauty to what was an hour ago a dull, inert mass of cold iron, is the highest development of his qualification; useless, however, without the other homelier power, and in some sort, as I take it, rather a development of it than a distinct gift.

Is architecture an art? And, if so, is it a merely industrial art? Is it one of those nobler arts,—like surgery, for example,—which stand out prominently as dignified, and yet may have nothing to do with taste and beauty, or is it a fine art, like the pursuits of the musician or the painter? Architecture obviously does not resemble arts such as are generally called industrial. Architecture is not an industry. It, however, has much in common with what I have described as the nobler arts; it has also much in it of the fine arts. Let us for a moment consider how much, and let us with this object examine the nature of an architect's work.

The architect has to exercise trained skill at every step, and he depends upon that skill for his success. To begin at the beginning, it is not a natural gift which enables him to grasp the requirements in the case of any intended building,—this, which must be done as the first step, is only

possible after very considerable experience and training, yet if it be not clear to the architect what the requirements are which he has to provide for, his work is compromised at the start. Again, the power of grasping the nature of the site which a building is to occupy,—selecting the exact position, and blending or contrasting the intended building with its surroundings, is an acquired skill; in short, an art in itself.

Again the skill which can rapidly and surely contrive and plan a scheme that will meet the requirements when the latter are clearly understood, and will fit the site, is an acquired aptitude, and one that needs cultivation and constant practice to develop it, and without which the architect is unable to produce a building fit for its purpose.

When the architect proceeds to design his building, he begins by planning it,—that is to say designing and arranging the shape and size of the floor or floors on which the affairs which the building is for can be most conveniently transacted, together with the walls to enclose them, the openings for light and access, and, in any complicated plan, the communications. While this is being done, however, other considerations must be present to the mind. The shape or shapes given to the building must be such as can receive a suitable roof, and such that out of them shall naturally grow an exterior and interior with good architectural character. It is impossible to exaggerate the importance of the plan as a factor in the design, and only by trained skill can the architect embrace these various and often conflicting needs at the same time, and combine and contrast, change and recast one part after another till he has achieved that triumph of technical skill, a good plan.

We have said that the appearance of the building has to be borne in mind from the first, and as the planning proceeds, the designing of the exterior and interior must be taken up and proceeded with; and here a skill and a taste bred only of cultivated training, practice, study, effort, and some spark of genius, or, at least, some measure of talent, is called for. With main forms shapely, well-proportioned, harmonious where a quiet effect is right, or contrasted where brilliancy is needed; with features each in its place, and each itself good; and with mouldings, enrichments, ornaments, and colour, each studied and each characteristic,—the architect must gradually build upon paper a series of elevations and sections which his skill enables him to make, such that if carried out the building shall have beauty, and such dignity, or grace, or other quality as best fit its nature and its site.

Another claim on that skilled capacity which makes up the art of the architect, and one, perhaps, as difficult to comply with as any, is made by the financial question. Rarely has the architect *carte blanche*; rather, as a rule, is he closely limited by a fixed amount to be expended, which may not be adequate to enable his ideas to be carried out. In most cases it is essential to success that strict economy be observed, by which I do not mean mere cheapness, but a vigilant eye to keep out everything in the least superfluous, and a careful adjustment of the entire project to the funds at the architect's disposal. In this respect our work is placed under conditions with which the painter has nothing to do, but which are not dissimilar to those governing the sculptor's work. They press often very heavily on the architect, and yet ability to conform to them is one of the parts of our art most imperatively necessary. To put the case in the fewest words, the architect is spending some one else's money. He is bound to spend it like a careful trustee. He is expected to be able at a very early stage to foresee what the cost of carrying out this design when it has been matured will be, and the success of the undertaking not a little rest upon his success in doing so.

Another peculiarity inseparable from the position of the architect and one of the difficulties besetting the exercise of his art, is that he has to build through others. He

* Opening lecture of session 1892-3 at University College, London, by Prof. T. Roger Smith.

cannot execute with his own hands the works which he designs and produces. An army of carpenters and joiners, masons and bricklayers, are at work erecting the building, each not unlikely to fall into mistakes and mar as well as make. The architect must supply such plans, such specifications, and such supervision that it shall be easier to go right than to go wrong, and that the many hands engaged may work to one end. I quite admit that from one point of view the modern system of management by which in most parts of England one contractor directs many trades diminishes the difficulty which I have described compared with what it was at the beginning of the century; but if it makes it easier to direct a miscellaneous body of operatives, this practice introduces a new and a not less serious possibility of difficulty of a different sort. The interest of the contractor must weigh with him; and may tell adversely if doing the work badly be to his interest, and be not foreign to his principles. In such a case it depends upon vigilance, which may often be eluded, whether cheapness may not take the place of economy in a manner detrimental to the work.

In short, dealing with men, with contractors, foremen, artisans, clerk of works, and last, but not least, with employers, committees, and official persons, is a part of his art in which the architect requires to be skilled. Fortunately for beginners, and indeed for us all, a good routine exists, and scrupulous attention to it will enable a reasonably sagacious man to avoid many of the difficulties; but even to gain a familiarity with that routine is part of the requisite training.

I have yet to allude to one of the most interesting, as well as the most important, branches of an architect's work. I allude to his supervision of his building during its erection. The methods pursued at the present day requires a great deal of foresight to be exerted. We build our buildings on paper complete, long before we build them of bricks and mortar, but when the paper work is done the exercise of the architect's skill is only begun. The superintendence of a work consists in part in watching the materials, and the putting of them together to see that the one is sound and the other workmanlike; but it means also watching the architectural quality of the work, as it gradually emerges from the ground and takes shape, in order to see that that shape is what it ought to be, and within limits (to which I allude directly) to better it. We will select one feature, the mouldings, as an illustration of what should be more or less done for every part. When there are mouldings, either in the exterior or interior the architect should see a specimen of each important moulding, or group of mouldings, executed in the same material and placed at the same height from the eye as is intended. If he is master of his art he ought to be able to judge whether that of which he sees a specimen will do its work as a factor in the artistic quality of the building, and, if it will not, to know how to modify it. What it required as to mouldings is required as to every element of the building, and a skilled and vigilant architect can do much to perfect the quality of his executed work by minute attention to details as they go on.

Beyond this comes the question of improvements. Few minds cease working at any stage short of the end of an undertaking; and the architect or his employer can often see how to modify for the better a building which is in progress. This is sometimes a misfortune, as well as an advantage, and part of the architect's art is to know when not to change, and when he had better change his work as it goes on. Nothing connected with building is more full of risk; and a most unfortunate quality of mind is that fluctuating taste which before a work is well begun desires to change it in important particulars. Over-supervision is also a defect, and one part, not an inconsiderable part, of the art of superintending a building is to be able to let well alone.

It may be objected that in this description I have mixed up things which everyone would admit to be *art* with others to which some would desire to give another name. But I reply that every part of what has been just described is essential. If a building is designed and carried out without any regard to the architectural qualities which it ought to have, if it is vulgar, unpleasing, ugly, we all recognise that an essential point is missed; but I maintain that if it is badly planned, or carried out defectively or profusely, the architect has equally missed an essential of success in his art. And let me add that the quality which we are about to consider under the name of science must lie at the root of the art, or the result must be incomplete,—not to say imperfect.

(To be continued.)

HISTORIC MEMORIALS OF LEIX.

(Continued from page 211.)

THE road from Maryborough to Ballynakill proceeds to the cross roads at Rathleague, the seat of Parnell, Esq., thence by Sheffield, the seat of Cassan, Esq., where it enters the road to Abbeyleix, at a crossing. About two miles distant, the road to Timahoe is marked leading by Cullinagh, the seat of Barrington, Esq. The road then enters Ballyroan, beyond which, one road branches towards Abbeyleix and Viscount De Vesce's demesne. Mount Eagle, the seat of Lord Bishop of Waterford, lies on a road to the right. The other road has Rockbrook, the seat of Grey, Esq.; Blandsford, the seat of Bland, Esq.; Barnet's Grove, the seat of Barnet, Esq., the Athy road crossing, and Trench's beautiful demesne of Heywood, on one side; while on the other, the Mount-rath road joins it, a turnpike intercepting the entrance to Ballynakill town.¹ To the north of Maryborough, two roads start in the direction of Mount Melick, while one road runs in the direction north-west towards Ballyfin, another parting towards Mountrath, while another bears north-eastwardly towards Portarlinton, by Kilminchy, the seat of FitzGerald, Esq. To the east of this road branch one to Stradbally, and another to the cross roads at Rathleague; while two other branch roads part from the Portarlinton road, and cross the latter, when both merge together, and form the Athy road from Maryborough.

From the Town of Castle Durrow—in 1777 simply called Durrow—a road leading northwardly leaves the town, and it branches at a crossing, towards Roscrea north-westwardly, and towards the Kilkenny road south-eastwardly.² A little further to the north, a road parts from it towards Burrisin-Ossory, on which lies Moyne, the seat of Stubber, Esq. The former road then bends eastwardly towards Ballynakill, and it crosses the River Nore, by Dunmore House, Staples, Bart., as also Castle Water, Lyons, Esq., and a little further northwards, lies Knapton, Piggot, Esq. The Kilkenny road from Durrow crosses the Nore near Castlewood, the seat of Rev. Dr. Chaloner, then by a ruined castle, to a road crossing in the direction of Ballynakill, and at the crossing a turnpike is noted; a little further on there is another crossing road, near Lisbigney, the seat of Warren, Esq. Another old road branches from Durrow southwardly towards Kilkenny. Again, another road leads from Durrow in a south-western direction, evidently towards Johnstown, in the County of Kilkenny, leaving on the south-eastern side of it Capan Island, the seat of Lawrence, Esq., a road parting from it towards Freshford, then a ruined castle, and afterwards proceeding to a crossing road—evidently the present site of Cullahill village—one of the crossing roads starts for Rathdowney, beside a church, and a structure called Beggar's Inn: on either side of the other crossing road, leading to Kilkenny are

the Houses of Ashbrook and of Ralogan, the seat of Vickers, Esq. On the north-western side of that main-road lie Castle Durrow House and Demesne, the seat of Viscount Ashbrooke; next two crossing roads, and between them the seats of Edmondbury, Butler, Esq., and of Derrin, Palmer, Esq., next castle ruins, afterwards a road leads towards a church and the residence of Rev. Mr. McKay; afterwards, a road leads to Rapla, the seat of Philips, Esq., thence proceeding to the crossing road at Cullahill, the main road goes onwards towards Johnstown, in the County of Kilkenny.

From Carlow-Graigue, on the eastern side of the River Barrow in 1777³ proceeded a road to Springhill, the seat of Cramer, Esq., eastwardly, and evidently onwards to Killeslin, while another road went southwards to Clogrennan, the seat of Rochfort, Esq. Another road branches from the former, more to the south-westward until the latter road joins a road bearing east and west, connecting north-eastward of Clogrennan Demesne with the main road leading from Carlow to Leighlin Bridge.

In 1777, a road is shewn as extending from Athy, through a portion of the Queen's County, and in the direction of Castlecomer, County of Kilkenny.⁴ After leaving Athy, one branch of it leads by Ballyadams, Butler, Esq., towards Ballykillcavan, near Stradbally, while the other proceeds by Rahin House, the seat of Weldon, Esq., and to the crossing road for Carlow at Ballylinan; thence the road continues, on the right passing another that leads to Corbally House, the seat of Stratford, Esq.; on the left, are two branch roads which soon join and then tend in a direction to Carlow. After crossing a small stream, which joins the Douglas River, it meets the crossing main road from Stradbally to Carlow, and near that crossing a turnpike is noted, but on which of the roads placed is not indicated. The main road, leaving Maidenhead, the seat of Bambrak, Esq., and Newcastle ruins (Ballalehan Old Castle) to the left and Gracefield, the seat of Grace, Esq., to the right, ascends the uplands in the direction of the Collieries, where coal pits are marked on the boundary lines between the Queen's County and County of Kilkenny. Within the former county, branches from it a road leading towards Carlow, and near the junction is noted a turnpike, as also a good house, with fire engine,⁵ noted on the map. Not a single road is represented on the slopes of the Slieve Bloom Mountains, within the present Barony of Upperwoods or Offerlin Parish.

THE CHICAGO EXPOSITION.*

Now that the principal constructions of the World's Columbian Exposition approach completion, the exterior of nearly all being finished, while the grounds around them are already, in a great measure, laid out, it is possible to form a general idea of the effect which will be presented when the Exhibition opens to the public on May 1 next year. The beauty of the scene can scarcely be exaggerated, and when the object and size of the immense buildings, which are all of classical design, with the vast extent of ground they occupy, are considered, it is difficult to imagine a more perfect arrangement than has been planned. A peculiar feature is the harmony which unites the various buildings, designed by different architects, into one artistic panorama; and to this the site on the borders of Lake Michigan lends a natural perfection. Lagoons and canals everywhere intersect the grounds, and the irregularity of outline of these water-spaces, and of the wooded island in their midst, contrasts charmingly with the long straight lines of architecture which are thus thrown with somewhat irregular disposition.

³ See *ibid.* Map. 133.

⁴ See *ibid.* Map. 136.

⁵ As this is marked down near the Coal Pits, it seems likely to have been used for their working at that time.

* From a Report by Col. Hayes Sadler, transmitted to the Foreign Office; published in *Jour. Soc. Arts*.

¹ See Taylor's and Skinner's Maps of the Roads of Ireland, Surveyed 1777. Map 110.

² See *ibid.* Map 110.

The effort so successfully carried out will, undoubtedly, exercise a powerful influence on artistic feeling in the country; and even were no exhibits of matured excellence to be seen within, the buildings cannot fail to stimulate the development of taste, and guide towards perfection in art in the New World. The main object of the Exhibition is far more material, but to this nothing will be lost by added charm of artistic beauty and grandeur.

The approximate exhibit space at Philadelphia was 4,323,330 square feet, and at Chicago it is estimated at 9,138,888 square feet.

The work of construction progressed satisfactorily during the early part of the year, there having been few days when operations were checked by severe weather, but it was much retarded by heavy rains in May and June. The rainfall in June was 10.58 inches, and work was interrupted for 18 out of 30 days, foundations were flooded, and the underground work of laying pipes suspended, while some slight damage was done by severe storms of wind. When possible, the full force of 7,000 men was employed, but not so much work was accomplished during those two months as had been counted on, and at the end of June the two great buildings—the Manufactures and Liberal Arts and the Mines and Mining—presented a very unfinished appearance. In July, however, on a change of weather, extra hands were put on, and much progress was made.

The condition of the principal buildings at the end of July was as follows:—

In the Administration Building the construction is complete, and all staff work placed. The dome framework is erected and covered in, but gilding and decoration has not yet commenced. The statues are being finished, though not yet in place.

The Mines and Mining Buildings is complete, but it will probably receive another coat of colouring.

The Electricity Building is finished as far as ironwork and woodwork are concerned. The staff on the north and east sides is placed, and on part of the west side.

The main part of the Transportation Building is practically complete, but the Annexe has yet to be built.

The Horticultural Building is entirely finished, with the exception of some of the sculptured groups to be placed outside.

In the Women's Building little remains to be done but interior decoration. The outside sculpture work on the pediment is progressing.

In the Fisheries Building the imitation Spanish tile roofing is all in place; the concrete work of the aquarial tanks and fountain is nearly finished. The ornamental staff work outside and on the north and south entrance loggias is all complete.

In the Art Gallery the iron contractors have finished their work on the dome; nearly all the masonry work is done, and nearly all work on the building completed. Plain and ornamental staff on the north side and entrance on the east end is placed, and three-quarters of the ornamental and half of the plain staff placed on the south side and entrance.

In the Manufactures and Liberal Arts Building all the 22 large trusses are up, and the diagonal and smaller trusses placed on the south end. The traveller will shortly be moved to put up smaller trusses on the north side. Skylights in the wood-covering are in course of placing; where there is no skylight the wood will be covered with canvas. The side trusses are placed on the west and east and partly on the south sides, and the roofing of the naves is erected. The staff is placed on the north-east and north-west pavilions, wood and staff work progressing in other parts. The amount of steel work erected to end of July was 9,539,000 lbs. out of 12,000,000 lbs. required; lumber, 13,784,288 ft. out of a total required of 17,000,000 ft. The central hall of this building is 1,280 ft. by 380 ft. a nave 107 ft. wide runs round the whole building, and the entire length of the building, with the strip running between the

central hall and the nave, is 1,687 ft., and the width 787 ft. The highest part of the dome is 245 ft. There are 4,000,000 ft. of lumber in the foundation, not including the piles, and 3,000,000 ft. (200 cars loads) in the floor. It is three times the area of St. Peter's at Rome, and four times as large as the Colosseum.

In the Machinery Hall the iron work on main buildings is complete, except the central dome. Carpenters are sheathing the east end and working on the roof. All the staff work is placed on the north side of the Annexe, and three-quarters of the ornamental staff placed on the west end. Groups of statuary for the outside of main buildings are being made, and some figures are in position on ridge line of roof.

The Forestry Building is roofed and nearly finished, the rustic colonnade is almost completed, and the rustic trimmings are all in place on both interior and exterior of window and door frames. Split oak shingles are now being placed on the roof.

The main Agricultural Hall is done except interior trim and placing statuary. Some statues have already been placed and decorative fresco work started in the loggias. The roof joists of the Annexe, have been set, structure entirely sheathed in, and staff work advancing; canvas and metal roofing finished.

The Dairy Building is wholly finished.

With the exception of Manufactures and Machinery, all the above buildings are roofed and windows glazed, and comparatively little remains to be done but interior decoration. All will be coloured with a light tint of old ivory or cream, varying somewhat in the different constructions; the tinting, which is finished on some of the buildings, is effected by means of a liquid spray, composed chiefly of oil and colouring matter. The statues are moulded of staff (on a light framework of wood), the same material as is used for covering the outside of all the buildings.

The central dome of the Government Building is sheathed in, and the corrugated iron covering is being replaced. All the building is covered with staff and practically finished, except interior trim. The estimated cost, with the Annexes for the army and weather bureaux, is £78,577, and the whole expenditure contemplated by the Government is £300,000.

The Illinois State Building is an imposing structure. Rough work is all done except on the dome, the plastering of the exterior nearly finished, exterior covering being placed on all sides of the building. There are twenty-two other State buildings in course of construction, some of them being far advanced. They are all grouped at the northern end of the park on the separate ground allotted them, and are of great variety of design; many are important buildings, and will present a charming effect.

The British Building was the earliest foreign construction commenced, the first pile having been driven three months since on the small but beautiful site allotted on the shore of Lake Michigan, to the north-west of the United States Building. The walls are constructed to the first floor, and flooring laid, but otherwise not much progress has been made, work having been delayed owing to non-arrival of detailed plans, and delay in delivery of material. Plans for the German, Ceylon, and Swedish Buildings have been accepted and ground allotted. The Ceylon construction will be in the form of a Ceylonese Court; the Swedish Building, of the old Swedish Cathedral style, is to be constructed entirely in Sweden, and shipped in sections, and will cover 12,000 square feet.

ST. MARY'S CATHEDRAL, LIMERICK.

THE works of restoration of the south aisles and chapels of St. Mary's Cathedral, having been completed recently, it was re-opened on Thursday last. The entire has been skilfully carried out, under the direction of Mr. R. Fogerty, C.E., by Messrs. J. T. Ryan and Sons, Limerick.

IRISH FOLK-LORE.

It is oftentimes curious to trace in the folklore of every country some indirect coincidence with the recorded facts of history. As an example, in the case of Irish romantic literature, at Rosnaree, near Tara, there was a tradition, that two hundred persons were swallowed up by the earth for blaspheming the true God. This is said to have occurred before the introduction of Christianity to Ireland. Somewhat similar accounts are preserved in legends referring to various other Irish localities.

Here we find traces of ancient tradition, referring to the destruction of Sodom and Gomorrah, with all the country around, the inhabitants and all things springing from the earth, as recorded in the Book of Genesis. Ashes arose from the earth, as the smoke of a furnace. In many similar instances, Gentile traditions tend to confirm the arguments of those commentators, who rightly interpret the Mosaic accounts of early history, as contained in the sacred Scriptures.

Subsequent to the Irish pagan period, and in Armorica, an old city, known as Chris, or Keris—sometimes called Is—and situated on the seashore, was ruled over by a Prince Gradlon, surnamed Meur. This royal personage had been a friend to Gwénolé, founder and first abbot over the earliest monastery erected in that part of France. This saint predicted the submersion of Gradlon the Great's chief city. His prophecy was thus fulfilled. The city of Is had been protected from inroads of the sea, by means of an immense pond or basin, which received superfluous waters during the prevalence of high tides. A sluice-gate opened and admitted the king to the basin, whenever he deemed it necessary; but he always kept the key of this secret opening. The Princess Dahut, his daughter, secretly entertained her lover at a banquet one night; and both purposing to escape from the palace, she stole the key while her father slept. On opening the flood-gate, the high waters burst through and submerged the city with its inhabitants. The offending princess was drowned, and afterwards she was metamorphosed into a Syren. Often was she seen on the seashore, combing her golden hair, while her plaintive songs were heard in cadenzas, melancholy as the murmur of the ocean's waves on the strand. In that charming work of Le Vicomte Hersart de la Villemarqué, the *Barzaz Breiz*, or Popular Songs of Brittany, the foregoing legend is metrically given, with commentaries of the distinguished editor. Local tradition maintains, that Gradlon escaped the rising waters, mounted on his white steed; and thus was he represented, between the two towers of Quimper Cathedral, before the period of the French Revolution, while an annual popular fête commemorated the old poetic story. The editor compares this Breton legend and other French traditions, with the Lough Neagh submerged city, as immortalised in the *Irish Melodies* of Moore.

There was an island of Caire Cennfinn concealed in the sea between Ireland and Scotland, according to an ancient tradition, recorded in the Book of Lecan. This may have had some connection with another Scotch tradition. *Flath-innis*, otherwise known as the Noble Island, is said by Macpherson to stretch out in the western ocean, but it is surrounded by clouds and beaten by tempests. Within this island

every prospect constitutes a paradise for the virtuous sons of Druids, who enjoy peculiar pleasures. Yet are they excluded from the Christian's Heaven. Certain practised incantations cause the fabled land to appear. Departed persons, during their peculiar happy state, were believed to have been warmly attached to their former country and living friends. Among the ancient Celts, females were said to have passed to the Fortunate Islands. In the words of an old bard, their beauty increased with this change, and they were regarded as ruddy lights in the Island of Joy. This enchanted country called Hy-Breasil, or O'Brazil, signified "the Royal Island," according to General Vallancey's interpretation. It was regarded as having been the paradise of pagan Irish. The poet of all circles and the idol of his own, Thomas Moore, has not forgotten the commemoration of Aranmore, near the Eden of immortals, in those inimitable "Melodies," which have so much redounded to his own and to his country's fame. In this fabled region, brave spirits are described as dwelling in a land of peace, in delightful bowers and mansions.

MISCELLANEOUS.

THE MONSTER TELESCOPE, which will be one of the wonders of the French Exhibition of 1900, has been recently lectured upon at M. Deloncle's residence. Curious details were given touching the proportions of the projected telescope, which, it is stated, will cost £100,000. It is to be as high as the Vendôme Column, and will enable the spectator to detect on the surface of the moon any spot of the size of one of the towers of Notre Dame.—*Invention.*

MOTTO FOR A TIMEPIECE.—"Some years ago (writes *Notes and Queries*) a new clock was made to be placed in the Temple Hall; when finished, the clockmaker was desired to wait on the Benchers of the Temple, who would think of a suitable motto to be put under the clock. He applied several times, but without getting the desired information, as they had not determined on the inscription. Continuing to importune them, he at last came, when the old Benchers were met in the Temple Hall, and had just sat down to dinner. The workman again requested to be informed of the motto; one of the Benchers, who thought the application ill-timed, who was fonder of eating and drinking than inventing original mottoes, testily replied, 'Go about your business.' The mechanic, taking this for an answer to his question, went home and inserted at the bottom of the clock, 'Go about your business,' and placed it on the Temple Hall, to the great surprise of the Benchers, who, upon considering the circumstance, agreed that accident had produced a better motto than they could think of, and ever since the Temple clock has continued to remind the lawyers and the public to go about their business."

A WONDERFUL LIGHTHOUSE.—One of the most wonderful lighthouses in the world is that at Minet's Ledge, near Boston. Its history has been one of romance. The greater part of its foundation is under water at low tide. In 1847 a skeleton lighthouse of iron was erected there on iron piles placed in holes drilled into the rock. A furious hurricane burst upon the coast in April, 1851, and anxious watchers from the Cohasset shore thought that the structure had been carried away. But, as the sun sank, out shone the light across the storm-tossed waters. At 10 p.m. the light was seen for the last time. At one hour after midnight the fog bell was heard above the roaring of the breakers. At day-break the ocean was a blank; the lighthouse was gone. Knowing that no help could reach them, the keepers had lighted their lamp as a warning to others, and their lives had gone out with it. Now a granite tower occupies the spot. So difficult was it to lay the foundation in the surf, says the New York *Marine Journal*, that only 30 hours' work could be done during the first year, but the tower stands to-day as enduring as the ledge itself—an isolated pile of stone amid the waves, by the force of which it is swayed like a tree in wind. During the long winter months all communication with the land is shut off. In summer the occasional visitor is hoisted into the lighthouse from his boat by means of a chair, and from time to time a skiff is lowered by pulleys to convey one or another of the five keepers to the shore.—*Invention.*

BELGIUM.—The condition of the labourer in Belgium is apparently anything but a happy one. Until recently, says *Engineering*, the State did not interfere in any way between the employer and employed, and the supply of labour being great, the labourer was obliged either to take or leave the terms offered by employers. To take the terms was to labour early and late for a pittance barely sufficient to keep body and soul together, often, too, paid under the "truck system" by provisions, which properly could only be characterised as being of the worst quality, and entirely too bad to be spoken of as "goods." To refuse the terms was to face starvation.

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Illustration.

OLD DUBLIN—A PROSPECT OF THE CUSTOM HOUSE AND ESSEX BRIDGE, AS THEY STOOD IN THE YEAR 1706.

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The Irish Builder.

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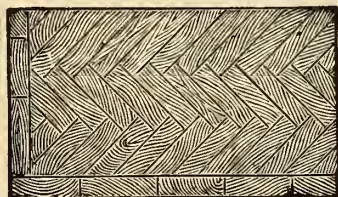
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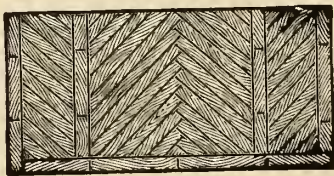
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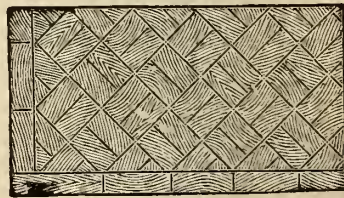
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TIR-NA-NOG.



SLANDS, invisible to most mortals, lying out on the distant ocean, or in the narrower seas and channels, near Ireland, are often said to have been seen by heroes, who set out on some erratic expeditions. Irish mythology abounds in stories of this nature. In those islands, genii or fairies dwelt in a state of perpetual happiness. But, they were also supposed to have had dwellings under the waters of our inland loughs. Thus the rich "Island of the Red Lake," where the birds warble melodiously, is mentioned; and, it is even celebrated, in some of our ancient or medieval romances. An island lay within it, on which a palace was built. Here fruit trees also grew, and the immortals there living fed on their luscious produce.

Those islands are thought to have been the retreats of the Fírbolgs. Magicians or enchanted people are met with, and their spells sometimes prevail against earthly intruders. In certain instances, the enchanted people are defeated by mortal skill and bravery. In such case, the adventurer is enabled to revisit Ireland. Far out in the Atlantic Ocean was Tir-na-Nog, or the Land of Youth. This was considered to be the Elysium of the Pagan Irish. It had a delightful climate, according to the ancient bards, and lovely scenery, with an amber-lighted atmosphere. There dwelt the heroes of Irish romance, in enchanted courts and palaces. The dwellers were always young and free from disease. Sometimes, this idealised region was called Oilean-na mBeo, or Island of the Living, and sometimes Tir-na mBeo, or Territory of the Living. It was also called Hy na Beatha, or Island of Life, Tir-na mBuadha, or Land of Virtues, as also the Land of Heroes, or the Land of Victories.

This region of enchantment was called the Blessed Realm, reminding us of the Happy Islands of the Greeks.* But the name by which it was more lately known, Hy-Breasail, or the Island of Breasal, seems to be the one in the traditions of Clare and Galway. Still the peasantry often believe it is to be seen through the mists of Ocean from the mountain tops of Western Munster, Connaught, and Ulster. In the early Christian times, it was thought to be Paradise, or the Land of Promise, and it was this belief, that induced St. Brendan of Kerry to search for it in the sixth century, and fortunately he was the first European to discover America, and to land on the Continent, where he remained seven Easters away from the shores of Ireland. After his return, a relation of his wonderful adventures was circulated throughout the ancient religious houses. With many exaggerations written by others, and not revised by himself, the celebrated "Voyage of St. Brendan" was circulated nearly six centuries before the birth of Christopher Columbus, and the reading of that well-

known romantic tract gave him the first inspiration to go in quest of the Promised Land.

Long after St. Brendan's time, and long before that of Christopher Columbus, there are records of various voyages made to the "Great Land," as it was named, by the Irish and Scandinavians. The latter called it Ireland it Micla or Great Ireland, as they believed it to be a colony belonging to our island. Now it is well known, that ancient colonizers from Europe have left monuments of their presence there, dating back to the tenth and succeeding centuries, and several such remains are constantly coming to light, especially along the eastern shores of the present United States.

"COAST LIGHT AND SOUND SIGNALS."

IN a recent issue of the *Liverpool Journal of Commerce*, there appeared an article bearing the above title, and from which we print a portion:—Mr. J. R. Wigham pointed out that the pronouncement of the Trinity House which ignored gas, had been reversed by Sir William Stokes, Lord Kelvin, and Lord Rayleigh, who had been appointed by the Board of Trade to investigate the matter. He was therefore encouraged to persevere in his experiments, and had succeeded in devising two important improvements. His new burners give increased efficacy to gas as an illuminant for lighthouses; and, if these were used, together with the arrangements of lenticular apparatus, which he described, then it is possible to evoke a power of 8,000,000 candles in foggy weather for the benefit of navigators. This inconceivably powerful light, owing to the composition of the gas and its great volume, would penetrate haze or fog in which the rays of a powerful electric light would be glittered away. The electric light at St. Catherine's Point, although its double power was brought into play, failed in its duty when the ill-fated German mail steamer went on shore there in a fog. Had Mr. Wigham's group flashing light in its most powerful form been used, there is a strong probability that its rays would have perceptibly pierced the fog. Professor Tyndall has urged for many years that the flashes of a warning light should be pulses of light leaping instantaneously out of the surrounding darkness, and falling just as suddenly into darkness again when their work is done. In other words, in place of quick revolving lights that do not suffer extinction, he would have total obscuration followed by rapid revival. Powerful revolving lights not infrequently fail to make themselves evident to those in peril on the sea even when the sudden flashes of associated signal guns are plainly visible. A light not visible when expected is a fruitful source of error. One large cargo carrier and her costly freight, saved from "merchant marring rocks," goes far to cancel the expenditure incurred in supporting lighthouses and lightships around our coasts or elsewhere. We deem it unnecessary to refer more explicitly to the evident fact that it is impossible to estimate the money value of passengers' lives, should a large liner run ashore and founder with all hands, owing to the poorness or the utter absence of a warning light to send its cheering rays across the face of the waters. Shipmasters should be the best arbiters of the struggle between electricity and gas, as illuminants in our light-houses. To this end the Shipmasters' Society of London are desirous of obtaining reports and opinions from masters and officers in active service. Every navigator leaving or approaching the land should constitute himself an unpaid observer in this important cause, and forward his records to the secretary of that society. The "Eider" and the "City of Chicago" are good object lessons, setting forth the fact that existing coast

warnings are insufficient. The "Eider," in a fog and moderate breeze, passed within three miles of Anvil Point and of the Needles first under oil lights. She eventually stranded on Atherfield Ledge, about three miles from the six million candle-power electric light of St. Catherine's Point, without seeing one of the lights, hearing the needless bell, or St. Catherine's syren. The "City of Chicago" was wrecked near the Old Head of Kinsale, where fog signals are conspicuous by their absence.

TERRACE OF HOUSES,
SANDYMOUNT AVENUE.

THE terrace of houses which we illustrate in present issue is being erected for Mr. Samuel Worthington, from designs by Mr. Albert Edward Murray, F.R.I.B.A. As will be seen from our sketch, the architect has ventured to depart from the ordinary run of terrace houses in our vicinity, and, we believe, with great success. The terrace, which is to comprise ten houses, will, when completed, present quite a picturesque appearance. Each house will contain two sitting-rooms, five bed-rooms; kitchen, pantries, and bath-room. All modern requirements, including electric bells, will be provided.

ARCHITECTURE: AN ART,
A SCIENCE, AND A PROFESSION.*

(Continued from page 221.)

SCIENCE means knowledge. A science is the knowledge possessed by learned men on any one subject. We talk of the science of heat, and we mean all that is known about heat. The science of chemistry similarly means all that is known about chemistry. A good deal of that which is now known consists in the laws that govern phenomena, as well as in bare facts; and under existing circumstances, when the boundaries of knowledge are being extended in every direction, a good deal more of the time of scientific men is spent in research than in dealing with known and established facts. These two ideas, however, the idea of research and that of the study of natural laws, are what one may call secondary and added notions. The primary and simple meaning of a science is the sum of that which is known and knowable about any great subject.

There are various directions in which the architect has to accumulate knowledge, and various sources which contribute to the science of architecture. The first of these is construction. Skill in contrivance, facility in design, must rest upon and spring out of sound structure. The architect must know out of what materials his building is to be made, and how to deal with them; what is necessary for stability, what for solidity, what for durability; what are the defects or the bad qualities of each material, and what is its special excellence; and how the defects are to be remedied and the good qualities utilised. He requires to know how building is done, and that in various localities and with various arrangements; and he should be abreast of all the improvements of recent years,—the new materials, new modes of manufacture, and new possibilities; but while he is to be aware of what is newest, he must also be master of what long experience has established. In short, *building* is the architect's business, and, unless a knowledge of building which is at once accurate and extensive forms part of his equipment, he will do badly.

This is the more important because all the noble qualities which architecture can impart to mere building grow out of sound construction. Such fine features as the arch, the dome, the vault are only pleasing because they are structurally part of the proper constituents of a building, and proclaim themselves such. When the eye, indeed, once perceives

* Called Μακράν Νήσος.

* Opening lecture of session 1892-3 at University College London, by Prof. T. Roger Smith.

that a feature, even if richly decorated, is not structural, it loses more than half its charm. Few travellers, for example, can have failed to feel keen disappointment when they found out that the gables of many Italian churches were shams, not having any relation to the outline of the wide roof which they conceal; and were there any point from which it were possible to perceive that the exaggerated parapet of St. Paul's suggests to the spectator a storey which does not exist, I think few would resent the means by which a very noble appearance has been obtained.

At the present day the introduction of steel and iron into buildings is the great novelty in construction, and no architect can afford to be unfamiliar with the qualities of these materials, or to be unprepared for the necessity of employing them should it arise. The extensive possibilities opened out by the use of terracotta, the various ways in which Portland cement has rendered strong and stable building more easy than before, and the many varieties of tiles obtainable, may be taken as less capital examples of modern methods which must be mastered.

I spoke of various directions in which the science of architecture has been developed. Construction is one, sanitation is another. Not only should the architect be able to design and calculate his own beams and stanchions, he must also be able to arrange the drains, the water-supply, the heating, lighting, and ventilating of his buildings, and that in a manner such as to be fairly abreast of modern practice in this respect. I do not consider this a less essential branch of the science,—or knowledge,—which an architect must acquire and make use of than construction, and in nothing affecting a building are there so many recent discoveries to record.

A further branch of the knowledge for which I am pleading, and one constantly ignored, deserves mention. I refer to the transmission of sound. How often do we find a fine church in which no one can preach so as to be heard; a court of justice in which the keenest ear can hardly catch half the proceedings; a public hall where no speaker can escape an echo? Now, it is not caprice and chance which occasions these failures, though it soothes our self-esteem for us to say so when we have failed. The truth is that a certain amount of attention to what is known about sound, and of keen observation of buildings already erected, would have rendered the architects and their employers an inestimable service as showing what was likely to lead to failure, and how to avoid it.

The last branches of the science of architecture to which it is necessary to direct your attention is of a different nature to the one just alluded to. A competent knowledge of some at least of the forms used in architectural design, including under the word forms, general masses, features, mouldings, and enrichments, is quite indispensable. When I say a competent knowledge of certain forms, I mean a knowledge so thorough and complete that the architect can use those forms with perfect ease and precision, and knows them as familiarly as he knows the size of a brick or a flue, or as a musician knows the notes of the scale. I said a competent knowledge of some of these forms, and probably no man has known or can ever know them all, nor is it necessary. Enough to enable a man to design in one style and to make the detail drawings and profiles for the building is the minimum. How much more is desirable I dare not attempt to say. Possibly the most successful designers have not gone beyond one style; at any rate, the best designs that the world has seen belong to ages when only one style was known and followed in one place. He who would limit himself to one style, however, should at least know every part of that style thoroughly; and, let me add, he will be helped by that knowledge if he study others.

It seems, however, to the last degree desirable at the present day that an architect should have a general knowledge of the past art, at least of Europe, her principal buildings, and the growth and decay of various

styles of architectures. Without this he is ignorant of what must often be suggestive and always deeply interesting, and he can hardly be prepared for the miscellaneous demands of the present day.

The sort of knowledge of architectural forms and features to which I refer can hardly be obtained except by measuring and drawing existing buildings themselves. The ground-work of it may be laid by a student while working on another architect's buildings; but, as a rule, a thorough, accurate, serviceable mastery of one style, such as enables an architect to deal with it as the clothing of his architectural ideas is got nowhere and nohow except by definite study of existing work, certainly not from photographs, and only partly from drawings, engravings, or books. A knowledge of the history of the art, on the other hand, is obtainable best in the class-room and the library.

We will now try to form an idea of what is meant by a profession; and, as is not infrequently the case, we may perhaps be aided by looking back a little to the days of our forefathers, when life was less complicated than it is now. A hundred and fifty years ago four professions, and I think I may safely say four only, were generally recognised, though even then one other, to which I will allude directly, might be added. The Services, the Church, the Law, and Medicine are the four. If for a moment we consider what distinguishes these pursuits, we shall have made out the general idea of a profession.

First, in each of them there is the idea of some special personal cultivated skill; in other words, the mastery of an art. Take the Services,—for either of them a man must claim to be skilled in something. It needs a long training to sail a man-of-war, to carry her safely through a storm, to go through a sea-fight with credit and success; nor is it less a feat of trained skill to conduct a campaign, command an army, a regiment, or even a company. In short, seamanship is an art. There is an art of war. The clergyman's position implied,—and to a large extent does so still,—a university education, and a degree, and some mastery of the art of public speaking. That the practice of the Law requires special training and skill, and is indeed an art, is as notorious as that the same is true of Medicine. The first qualification for a profession is then what is meant by the title. The professional man *professes* that he is master of an art; in other words, skilled in a certain pursuit.

Next please note that each of these callings is pursued on behalf of some one else. The soldier and the sailor fight for the other people who make up what we call "their country." The doctor gives advice to his patient or aids him by his surgical skill, and sometimes saves his life, often restores his health. The lawyer conducts his law business for clients, and protects their property and interests. The cleric spends his life ministering to the wants of his parish or his diocese.

The respect in which the professions were and are held springs from these two qualifications. A man who can do something difficult and who can accomplish for us what we cannot do for ourselves is more or less looked up to, and the station that he occupies is held to be honourable. Nor is this honour very seriously impaired, if at all, by the third point about a profession, namely, that it is at once the means of living and also the way of life of him who practises it. The idea that a professional man is to be paid is so deeply fixed in people's minds that it is quite customary to use the phrase, "I wish to consult you professionally," in order to convey the meaning, "I want your advice, and am prepared to pay for it." The man who does the same sort of work that a professional man does without making his living by it is discredited by the epithet amateur, which always carries with it a kind of sense of the second-rate, and nowhere more so than when building is spoken of.

It is necessary to add that in many cases the practice of a profession includes more or

less of what is known as business, that is to say, of acquaintance with and exercise of the methods by which serious affairs involving property and money, loss and gain, should be conducted. Every pursuit by which a man seeks to make his living requires some business habits and aptitude of him, but in many professions the very nature of the work done calls for business training and talent. Think of the large pecuniary interests which an engineer has to deal with, or an actuary, or barrister, and you will recognise that many sorts of professional men are bound to be men of business.

Lastly, a profession is the mode of life of the man who practises it, as well as his means of living. If he be not, at least for a period of his life, given up to it, and absorbed in it, and devoted to it, not only is his success in it very problematical, but his claim to any distinction it can confer is doubtful. We have thus arrived at three characteristics of a profession,—that it implies the mastery of an art, and of the knowledge needful for its exercise; that it is exerted on behalf of others that sometimes it is of the nature of a business, and that it is paid. A certain precision might, perhaps, be added to our notions by some negative characteristics. It is not commerce, it is not manufacture, it is not agriculture, and it must not be trivial or mean in the objects to which it summons the professional man to devote his life.

Just as, had I gone further back, we might have come upon a period when in Europe there were but two recognised professions—the Church and the Army, so by coming nearer to our own time, with the rapid increase in wealth, population, activity, and knowledge which the present century has witnessed, we find one calling after another conforming to the criterion given above and so added to the list of recognised professions. For example, at least from the days of Reynolds and the establishment of the Royal Academy, a painter has been recognised as a professional man. Since the days of the elder Brunel and Smeaton, the calling of civil engineer has become a definite profession, and now the list of professions includes literature, education, the fine arts, and not a few of the applications of science, such as the work of the electrician, the consulting chemist, the metallurgist, and many others.

But before the days of the earliest recognition of scientific, or even of purely artistic professions in England, I think we have evidence that the architect was a recognised professional man. All that we know about the career and standing of Inigo Jones, or Sir Christopher Wren, or Sir John Vanbrugh and their colleagues, seems to show that they must have held a position of the same sort as was accorded to the physician or the highly placed clergyman of the same date, and certainly that they worked as a professional man does at the present day. So that I am disposed to claim for architecture that in England it was the very earliest profession (next to the famous four) to receive general recognition.

However that may be, architecture as practised, and as you will have to practise it, is a profession with all the marks of one. That it includes the mastery of an art, and the possession of the knowledge necessary to the exercise of that art, I have endeavoured to show. It is exercised on behalf of a client; it is exercised as the pursuit of a lifetime and as a means of living. It does not relate to mean or unimportant things, and it is not commercial, or agricultural, or manufacturing, but it does require business habits and an aptitude for transacting affairs.

If, then, you are to become architects, you are to embrace architecture as the one chief work of your lives, and to fit yourselves for the practice of architecture you are to master alike the art, the science, and the profession.

And on no other terms can architecture be done, because architecture is building; and building, though no mystery, involves so much that is technical in its artistic, its scientific and even its business aspect, that in no other way than by becoming a professional archi-

tect, and devoting the time and energy which the profession claims, and attaining the skill and acquiring the knowledge which the profession demands, can you hope to execute even an approach to good architectural work.

THE CHICAGO EXPOSITION.*

THE concessions already arranged include the Tower of Babel, 400 ft. high, with a diameter at the base of 100 ft., which will stand in the centre of the Midway Plaisance; the exhibit of Irish Cottage Industries at the end nearest the Women's Building; the Bohemian Glass Company and the Libby Glass Company of Toledo, Ohio; Japanese bazaars, covering a space of about 225 ft. square; the animal show of Carl Hagenbeck, of Hamburg; Settlement of the South Sea Islands, including the Fijis, Samoan, Philippine, Solomon, Java, Borneo, and the Society Islands; a natatorium, 190 ft. by 250 ft., and, in connection therewith, a Viennese *café* and bakery; panorama of the Bernese Alps; a German village, with representations of the houses of the Bavarian Mountains, of the Black Forest, the Hessian and Altenburg House and other typical German homes, including a German ethnological museum; a Turkish village, being the representation of one of the old streets of Stamboul, in connection with which are displayed the manufactures of Turkey, including Syria, also typical dances and other entertainments peculiar to the country; a minaret tower, from which will be heard daily the Muezzin call to prayer; Moorish palace, in which will be many illusions, camera obscura, &c., with a restaurant capable of seating 1,000 people, one of the great attractions of this building being an exhibit of 1,000,000 dollars in gold coins; street in Cairo, being a representation of the old Egyptian city, attached to which will also be mosques, dancing-halls, and many famous curiosities; Tunisian and Algerian section, showing the typical people of North Africa, their merchandise, as well as artisans at work; Ferris wheel, a wheel 250 ft. in diameter swung on an axle, the largest steel casting ever made, resting upon towers 135 ft. high, cars are hung at different points on the perimeter, to contain people who make the complete circuit of 250 ft., the weight of this entire revolving mass being 2,300 tons; ice railway, a practical winter exhibit, including a slide with an accumulation of ice thereon formed by artificial refrigeration; Pompeian house, a complete representation, including works of art; panorama of the volcano of Kilanea; section of Morocco, similar to sections of other countries; Chinese section, including a tea-house, village, and theatre; captive balloon, with capacity for carrying 28 people to a height of 1,500 ft., section of old Vienna, Austrian village; East India, typical section, showing people, customs, manners, and merchandise; Dahomey village, 60 natives of both sexes, including several chiefs.

A CONTRACTOR'S ACTION.

DIXON v. CORPORATION OF LIMERICK.

(Before Mr. Justice O'Brien and a special jury.)

THIS action was brought by Mr. Thomas Dixon, contractor, of this city, against the Limerick Corporation, to recover retention-money, and also damages for delay under a contract in connection with the Limerick Waterworks. Plaintiff sued for £2,342, balance alleged to be due to him under one contract, and for £300 under another—the laying of pipes; and he claimed £6,427 for extra work. There was also a claim that defendants had improperly and unjustly instructed their engineer to withhold his certificate from plaintiff. He complained also that he suffered damage by defendants not making the other contractors complete their contracts. Defendants admitted the making of the contracts, but denied that

plaintiff had performed the work. They admitted that £2,342 was due an foot of contract No. 1, but stated that they were not to pay it until the services were completed. They traversed the claim for £300, and pleaded that their engineers did not act improperly, and further alleged that plaintiff had been overpaid £211. Defendant also counter-claimed for £7,000 for delay in carrying out the works.

Counsel for plaintiff—Messrs. J. Atkinson, Q.C.; George Wright, Q.C., and W. H. L. Smith.

Counsel for defendants—Messrs. R. Adams, Q.C.; D. B. Sullivan, Q.C.; E. Carson, Q.C., and Daniel Browne.

Mr. Atkinson, Q.C., in stating the case on behalf of his client, said that the case would prove to be very dull and uninteresting, except for the object lessons it afforded in local government, which was most lamentable and amusing, and but for which they would never have been investigating this case. They first had a claim for £2,342 1s., which was retention money. Under the terms of the contract, the Corporation were, in certain events, entitled to withhold 20 per cent, of the contract price of the work during a certain period, and were not bound to pay in default of the engineers of the Corporation giving their certificates. The second claim was for £300, making in all claims of £2,642 for retention-money. Then there was an item of £6,427 14s. 7d. for extra works. In a contract such as this, the questions as to what were extra works, and what amount of money should be paid for these extras, were questions which could not be possibly settled by a jury or a judge, but must be referred for determination to an expert.

Mr. Justice O'Brien—At some stage of the case?

Mr. Atkinson—Yes.

Mr. Atkinson said that there were hundreds of items which nothing but the most minute examination could enable any person having a contract in their hands to determine whether certain work was covered by the contract. There was a controversy also regarding an operation called "pitching," which meant placing stones on an inclined plane at a certain angle. Two questions underlay these extras. Were they extras covered by the contract or outside the contract? If they were outside the contract, what was their value? The original claim for extras was £10,627 13s. 7d., but £4,199 19s. 9d. had been paid, leaving a balance of £6,427 14s., which was claimed. The third claim was entirely distinct and different from the others; it amounted to £1,131 10s. 8d., and was especially suited for determination by a jury. The Corporation contracts with Mr. Dixon were entered into in 1888, when defendants considered it desirable to have new waterworks. It was high time, for drinking water, for the muddy stream had developed a peculiar form of disease known as "The Limericks," to which every stranger succumbed before twenty-four hours. The first contract was for the construction of waterworks, reservoirs, filter beds, &c. The second was for the laying of the pipes to carry the water two or three miles from the works at Newcastle Hill to the city. The contract price of the first was £15,849 12s. 3d., for which the balance of £2,342 was being sued, and on the second contract £300 was still due. One of the terms of the contract was that it should be completed within two years from August 28, 1888, when it was entered into. The turbine-house formed part of the contract, but its machinery was to be supplied by a Mr. McNamara, under another contract. The contract for supplying the pipes was given to a firm of the name of Jordan, who chartered a little ship called the *Volante* to bring them over from Newport. In reference to this contract there had been so much litigation, that the hold of the ship would not hold the pleadings! The delay in these two small contracts had delayed Mr. Dixon in the fulfilment of his.

Plaintiff was examined in support of his claims, when a consultation of counsel took

place, and, a settlement being effected, the case was stopped.

The terms of the settlement are as follows:—The Corporation undertake to pay to the plaintiff, within two months, the £2,642 retention-money. They also undertake to pay him the sum of £300 for delay occasioned by the non-fulfilment of the contract by the other contractors. The plaintiff obtained liberty to draw out of court the £211 which had been lodged by the defendants. The defendants are also to pay the costs of the action.

Mr. Justice O'Brien referred to an allegation made by plaintiff that the Corporation had acted under influence in giving a certain minor contract to Mr. McNamara, and said that in his opinion the Corporation had acted fairly in the matter, and that all that could reasonably be said with reference to their action was that they naturally preferred to expend as much money in their own city, where the rates were raised, as they could. Referring to a statement made by plaintiff that the engineers of defendants had been induced by them to withhold certificates from plaintiff, his lordship said that these gentlemen had acted honourably and impartially, and had been good servants to their employers. There was no collusion between them. His lordship complimented Mr. Connolly, solicitor for the defendants, on the excellent legal advice which he had given them, and gave it as his opinion that the settlement was an advantageous one, as he would have been inclined, on a point of law, to direct a finding for defendants.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 221.)

AN ancient tract, known as the Dindsenchas, and which professes to give the legendary origin of Irish topographical names, states, that the present River Barrow was formerly called Berba, owing to the circumstance, that when Mechi, son of the Great Queen, had been killed by Diancecht, the celebrated physician of early times, three serpents were found in his heart. These were burned, and their ashes¹ were flung into the River by Berba. Immediately after, the waters boiled,² and dissolved every animal within them. Thence comes the name Berba, while it is stated, likewise, that there were near it places called Magh Luadat or the "Plain of Luadat," and Magh Mechi, the "Plain of Mechi."³ However, a different version is given in the Book of Ballymote, where it is written Bir-balb: the word *Bir* being glossed to mean "water," and *balb*⁴ is just as rendered in O'Davoren's Glossary. An ancient Poem is contained in the Dindsenchas, which relates to the River Barrow.⁵

Two ancient Poems in Irish, and having reference to Sliabh Mairge, are to be found in the Book of Leinster.⁶

An ancient poet⁷ gives the Dindsenchas of Slieve Bloom, which is stated to have been so called, from Bladma or Blod, the son of Conmaic Caiss Chlothaigh.⁸ After killing Bregmael, he took ship and fled from Ath-Cliath in Galway to Ath-Cliath in Wicklow. Afterwards, he took up his residence on the mountain, since called after him Slieve Bloom.

There is a Dindsenchas for Belach Gabran,⁹ said to have been called from the coursing of a famous hound, that went in pursuit of a great half-blind pig, which disappeared under ground. Nevertheless, it was followed by the dog, and finally he killed it, but on his return he died and was there buried. Belach Gabran seems to have been the former name for a road along the side of Slieve Bloom.¹⁰

1 Rendered *luar* in Irish.

2 The Irish expression *co ro-m-beir*.

3 According to the "Book of Leinster," edited by Robert Atkinson, M.A., LL.D., fol 159 b.

4 The whole word in Irish is set down as *urce balb*.

5 This begins with the line, *Is Berba, buan a bairbe*, at p. 159 b. of the published Book of Leinster, while the end of this Poem is at the beginning of p. 191 a.

6 Edited by Dr. Robert Atkinson, at p. 216 b.

7 As quoted, only Ful. appears in the manuscript, but a conjecture has been offered that the name might be Fulartach.

8 Book of Leinster, p. 192.

9 It begins *Is mairge bair in Gabran Blan*.

10 Book of Leinster, p. 196.

* From a Report by Col. Hayes Sadler, transmitted to the Foreign Office; published in *Jour. Soc. Arts*.

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:

ITS HISTORY, PAST AND PRESENT.

(Continued from page 216.)

The Parochial Registers.

THE first volume of these old Records—a small 4to, bound in vellum—commences 25th Feb., 1726, and ends 19th July, 1730. It is entitled, "A Book containing all the Weddings and Baptisms Perform'd from the 25th Day of February, 1726." All the entries are legibly written, although in different handwritings, a great many of them being in Dr. John Linegar's, and many in Dr. Nary's.

This volume may be considered not only unique, but also interesting, inasmuch as it contains the early names of the streets on the north side of the city, some of which are the very earliest we find recorded. It also contains the names of many of the parishioners of St. Mary's, which parish, although created in the year 1707, appears not to have been canonically formed until the 11th October, 1729, after which time the Register of St. Michan's is strictly confined to its own parish.

According to the ceremony of baptism in the Catholic Church at that time, every infant, should at its baptism, have two sponsors, a god-father and a god-mother; and in the Register their names are entered as well as those of the children and their parents. In publishing these registers we shall omit giving the names of the sponsors except those of distinguished personages; and wherever such names are given we shall place before them the abbreviations, *g.f.* and *g.m.*—god-father and god-mother.

Owing to the then Penal times, all baptisms, with very few exceptions, were performed at the residence of the parents of the infants; as were also the marriages.

BAPTISMS.

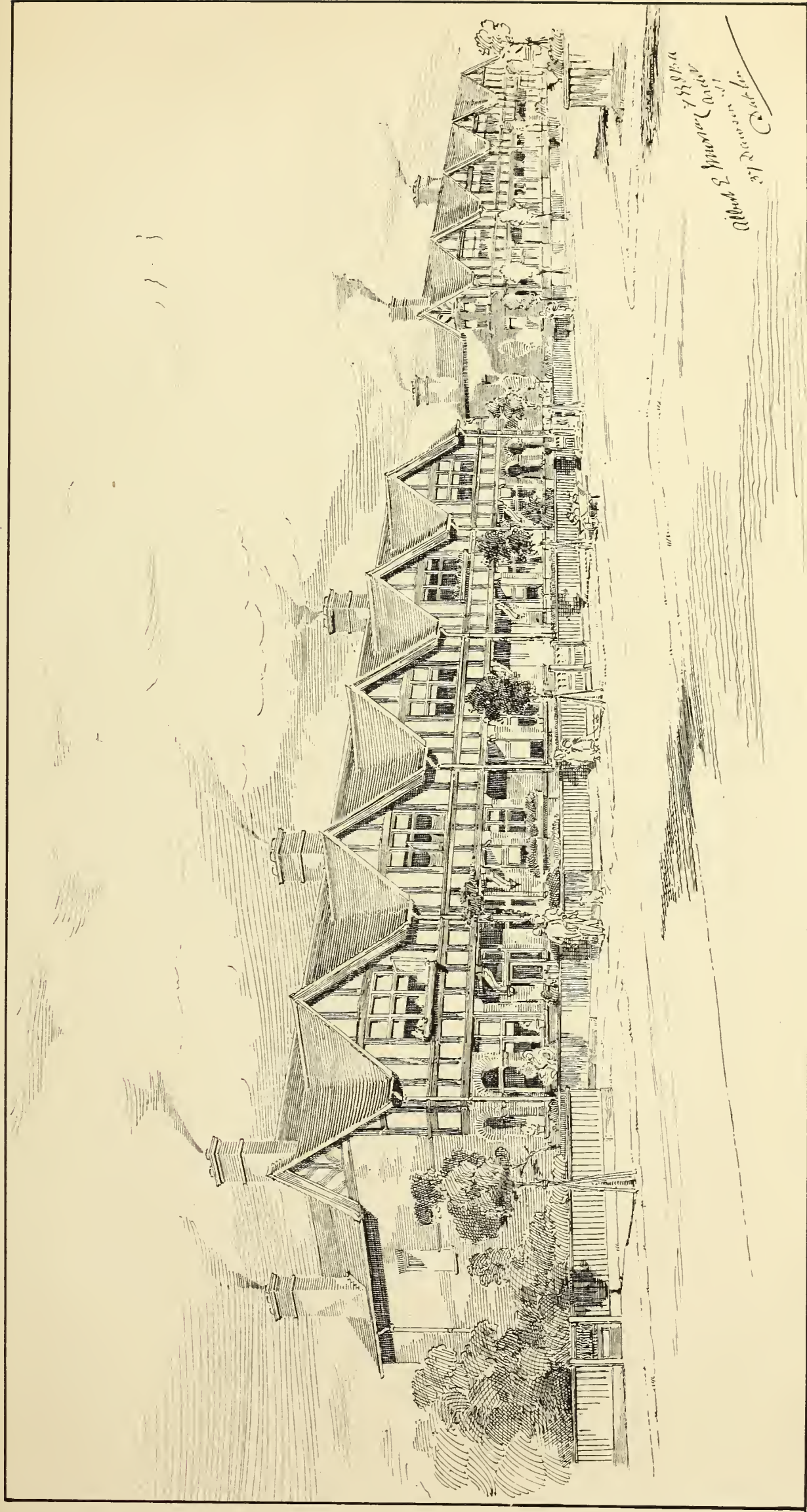
1726.

Feb. 28. Edward, s. to John and Elizabeth Hodger, Strand-street.
Mar. 2. James, s. to Peter and Elizabeth Matthews, at ye Rose and Crown, in ye Market.*
Mar. 5. Edward, s. to John and Mary M'Coy, at ye Red Cow, in Church-street.
Mar. 5. Patrick and James, sons to John and Mary Leonard.
Mar. 6. Eleonor, dau. to John and Margaret Davis, at ye Black Lyon, in Pill-lane.
Mar. 6. Mary, dau. to Patrick and — Cullen, Dromcondra-lane [now Dorset-street].
Mar. 6. John, s. to John Graven, Dromcondra-lane.
Mar. 6. Eleonor, dau. to Patk. Hanlon, Arran-street.
Mar. 6. Mary, dau. to Patrick M'Cardell, Cow-lane [now Greek-street].
Mar. 6. Patrick, s. to Timothy and Juggy Carney, at ye Lime Kill, in Church-street.
Mar. 9. John, s. to Wm. and Eleonor Keating, on ye Strand.
Mar. 9. John, s. to James and Mary Lynch, Mary's-lane.
Mar. 10. Elizabeth, dau. to Morris and Haua Walsh, at the Ship-building [now Old Abbey-street, nere of Eden-quay].
Mar. 11. Christopher, s. to Laurence and Mary Manahan, Church-street.
Mar. 12. Mary, dau. to Richard and Mary Hickey, Dromcondra-lane.
Mar. 12. James, s. to Wm. and Catherin Branagan, Church-street.
Mar. 13. Catherine, dau. to John and Bridget Goose, neare ye Broad Stone.
Mar. 14. Catherin, dau. to David and Mary Brehan, in Bull-lane.
Mar. 16. Ann, dau. to John and Ann Hogg.
Mar. 16. Ann, dau. to William and Mary Corbett.
Mar. 16. Mary, dau. to Cornelius and Mary Connor.
Mar. 17. Elizabeth, dau. to Edmund and Mary Byrne.
Mar. 17. Mary, dau. to Will. and Mary Coady.
Mar. 17. Mary, dau. to Barthw. and Mary Hartford, beyond the Broad Stone.
Mar. 17. Patrick, a. to Thos. and Christian Thornton, in Mountrath-street.
Mar. 17. Patrick, s. to James and Margt. Spencer.
Mar. 17. Rose and Margt., daus. to James and Margret Coyle, in Capel-street.
Mar. 19. Eleonor, dau. to John and Ann Meyler, in Church-street.

Mar. 20. Ann, dau. to John and Mary Brady.
Mar. 20. Matthew, s. to Charles and Bridgett Flood.
Mar. 20. Joseph, s. to Dennis and Rose Fullom, in Boot-lane.
Mar. 21. Mary, dau. to John and Margaret Brinnan.
Mar. 23. Mary, dau. to Will and Cathrine Donnellv, in Church-street; *g.f.* and *g.m.*, John Fitzsimons and Mary Reily.
Mar. 24. Mary, dau. to James and Catherine Warrin, in the Market; *g.f.* and *g.m.*, Peter Walsh and Dolly Heaney. [This and the preceding entry are in the handwriting of Dr. John Linegar, then curate of the parish, and subsequently Archbishop of Dublin.]
March 25. Mary, dau. to James and Jane Carbery, in Dromcondra-lane.
March 25. Patrick, s. to Patrick and Margaret O'Neill, in Liffie-street.
March 25. Esther, dau. to Thomas and Hanna Gibbons, Peticcott-lane. [Now Little Green-street.]
March 27. Mary, dau. to Richard and Margaret Farrell, in Fishers-lane.
March 27. Walter, s. to John and Alice Moran, in Boot-lane.
March 27. Elizabeth, dau. to Charles and Ann Dunn, next door to ye Chappell in St. Marys-lane.
March 27. Miles, s. to John and Cathrine Ryan, in Drumcondra-lane.
March 27. William, s. to Arthur and Rose Mulloy, at ye Rose and Crown in St. Marys-lane.
March 27. Martha, dau. to James and Jane Reily, in Lyphy-street.
March 29. Richard, s. to Edward and Mary Murphy, in the Market.
March 30. Ann, dau. to William and Elenor Dunn.
March 30. Ann, dau. to Patrick and Mary Bannin.
March 30. Ann, dau. to Thomas and Sicily M'Owen.
March 30. Elizabeth, dau. to Paul and Bridgett Bailly.
April 2. Henry s. John and Frances Toole, at the White Hart in St. Mary's Abby.
April 3. Ann, dau. to Lawrence and Judith Giraty.
April 3. Mary, dau. to Edw. and Margaret Myler.
April 4. Felix, s. to Lawrence and Alice Newman.
April 4. Patrick, s. to Edmond and Honer Haverly, in St. Mary's-lane.
April 4. Ann, dau. to Henry and Catherine Downey, in Boot-lane.
April 7. Thomas, s. to Anthony and Margaret Kemp.
April 7. Ann, dau. to John and Ann Murray, in Petticoat-lane.
April 8. Margaret, dau. to Thomas and Mary Hind.
April 8. Mark, s. to Garrett and Mary Kelly.
April 8. John, s. to Edmond and Jane Downings.
April 8. Esther, dau. to Thomas and Elisabeth Cavenagh, in Glasmahonoge [now Constitution-hill].
April 8. An, dau. to Garrett and An Farrell, in Abbey-street.
April 8. Mary, dau. to Thomas and An Coningham, in Strand-street.
April 14. Michael, s. to Bath and Sarah Cor.
April 16. Barbara, dau. to John and Jane Betagh, at ye Black Lyon in St. Mary's-lane.
April 17. Abraham, s. to John and Eleonor Newsum, in Anderson's-court.
April 17. John-Farrell, s. to Farrell and Ann Kernan.
April 18. Mary, dau. to Patrick and Mary M'Loughlin.
April 18. Mary, dau. to Lawrence and Diana Fullam.
April 18. Catherin, dau. to Cornelius and Judy Ward.
April 20. Thomas, s. to Edward and Isabell Walles, at the Strand [now Amiens-street].
April 20. John, s. to Bridgett Darcy.
April 20. James, s. to John and James Smith, in Church-street.
April 22. Catherine, dau. to Patrick and Mary Buttler, Charles-street.
April 24. Charles, s. to Charles and Margaret Lynch, Drumcondra-lane.
April 24. Elionor, dau. to John and Bridget Rogan, in Drumcondra-lane.
April 24. Jane, dau. to James and Margaret Byrne, in the Cloisters. [Probably a portion of the old Dominican Priory.]
April 24. Catherine and Mary, daus. to John and Mary Antwissell, in the Cloisters.
April 25. Mark, s. to John and Margaret Meade, in Mary-street.
April 25. Margaret, dau. to James and Mary Bryan, in Church-street.
April 25. Thomas, s. to John and Elionor Bennett, in Pill-lane.
April 27. Mary, dau. to Richard and Ann M'Nally, in Liffie-street.
April 28. Ann, dau. to Richd. and Margery Farrell, Batchelors' Walk.
April 28. Nicholas, s. to Nicholas and Ann Fannin, in Capel-street.
April 29. Thomas, s. to Will. and Ann Harding, in the Chapple; *g.f.*, Christopher Ives; *g.m.*, Margaret Nugent.

May 1. Phillip, e. to Patrick and Ann Browne.
May 1. John and Philip, sons to John and Alice Ryan, Loftice-lane.
May 1. George, e. to George and Margaret Sherlock, in Church-street.
May 1. John, s. to Roger and Jane Butler, in White Lyon-court.
May 2. Ann, dau. to Bernard and Mary Fielding, Arran street.
May 3. Catherine, dau. to John and Bridget Ward, King-street.
May 3. Phillip, e. to Dennis and Elinor M'Dermott, Strand-street.
May 3. Catherine, dau. to Bartle and Sarah Dignan, Boot-lane.
May 3. Philip, s. to Patrick and Sarah Brumbly, Boot-lane.
May 4. Mary, dau. to Dennis and Else Haston, in the Market.
May 6. Dennis, s. to Mathew and Catherine M'Namara, in Liffie-street.
May 8. John, s. to John and Mary Quin, in Fisher's-lane.
May 10. Mary, dau. to John and Margaret M'Donagh, in The Inns.
May 10. Honory, dau. to Roger and Catherin Cenal, in Mary's-lane.
May 12. William, e. to James and Catherine Lucarino, in Loftices-lane.
May 12. John, s. to John and Mary Dillon, in Charles-street.
May 15. Margaret, dau. to Bartholmew and Rose Manly, in Arran-street.
May 15. Sarah, dau. to Richard and Christian Purcell, in Peticcott-lane.
May 15. Catherine, dau. to Dennis and Elionor Barry, in Strand-street.
May 15. Edward, s. to Edmond and Margaret Fallon, in the New Market.
May 17. Catherine, dau. to Simon and Catherine Fullom, in Church-street.
May 17. Jane, dau. to Thomas and Mary Calaghan, in Pill-lane.
May 19. Francis, s. to John and Bridget Reily, in Church-street.
May 19. Catherine, dau. to Patrick and Jane Gafney, in Turnikin-lane. [Turn-again-lane, now Kings Inns-street.]
May 22. Catherine, dau. to John and Jane Holmes, in Capel-street.
May 22. Jane, dau. to Peter and Margery Harford, in Boot-lane.
May 22. Winifrett, dau. to Will. and Ally Gill, in Cow-lane.
May 22. James, s. to Patrick and Magdelen Martin.
May 23. Catherine, dau. to Will. and Ursula Delahide, in Bull-lane.
May 23. Margaret, dau. to Simon and Sarah Roch, in Liffie-street.
May 24. Mary, dau. to John and Mary Bryan, in the Market.
May 24. Margaret, dau. to Thomas and Elionor Cormack, in The Inns.
May 26. Elizabeth, dau. to Nicholas and Juggy Maglahlan, in Drogheda-street [now Sackville-street].
May 27. John, s. to Richard and Catherine Ennis, in Bolton-street.
May 29. Jane, dau. to William and Elizabeth Maxville.
May 29. Cathrine, dau. to Will. and Elinor Spencer.
May 29. Anthony, s. to George and Catherine Kelly, in Strand-street.
May 29. James, s. to Henry and An Maglahlan, in Boot-lane.
May 30. John, s. to Patrick and Jane Conelly, in Loftuses-lane.
May 31. John, s. to Martin and Mary Bourk, in Mary's-lane.
June 4. John, s. to John and Jane Whiten.
June 6. Daniel, s. to Edmond and Hanna Byrne, in Peticcott-lane.
June 6. Richard, s. to Christopher and Mary Brangan, in Peticcott-lane.
June 6. John, s. to Laurence and Catherine Fogarty, in Boot-lane.
June 7. Nicholas, s. to Nicholas and Sarah Gosson, in ye Chapple.
June 8. James, s. to James and Catherine Mullan, in Pill-lane.
June 8. Margaret, dau. to Patrick and Margaret O'Bryan, in Swifts-row.
June 9. Margaret, dau. to Thomas and Jane Denn, in Lyphy-street.
June 9. Christopher, s. to James and Margaret Lynch, in Market.
June 9. Francis, s. to Patrick and Alice Cinglin, in Capel-street.
June 9. Mary, dau. to Samnel and Mary Fletcher, in Bull-lane.
June 10. Hugh, s. to Patrick and Rose Neale, in Batchelours-walk

* Ormond Market; also written "New Market," its original name.



→* TERRACE OF HOUSES, SANDYMOUNT *←

PEMBROKE TOWNSHIP, DUBLIN.

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June 11. Jane, dau. to James and Margaret O'Bryan, Charles-street.
 June 13. Mary, dau. to George and Mary Dickson, Ormond-key.
 June 13. Margery, dau. to Will. and Honora Goggins, Boot-lane.
 June 13. Mary, dau. to James and Elizabeth Moran, Caple-street.
 June 14. Ann, dau. to Arthur and Jane Connelly, Coale-lane.
 June 16. John, s. to John and Jane M'Donell, Pill-lane.
 June 16. Hubert, s. to Redmond and Ann Bermingham, Inns Garden.
 June 16. James, s. to Edward and Jane Cullen, Inns Garden.
 June 19. John, s. to William and Mary Sanderson, Church-street.
 June 19. Elizabeth, dau. to Will. and Mary Sunderson, Church-street.
 June 20. Mary, dau. to Will. and Margaret Shockness, in Peticoate-lane.
 June 20. John, s. to James and Mary Ryler, Frappers-lane [now Beresford-street].
 June 22. Francis, s. to Patrick and Ann Carrick, Caple-street.
 June 23. Mary, dau. to James and An Fullum, in Henry-street.
 June 23. Ally, dau. to Bartle and Mary Boyle, in Church-street.
 June 30. Elizabeth, dau. to Patrick and Catherine Car, Loftiss-lane.
 June 30. John, s. to Farrell and An Feagan, in Church-street.
 June 30. James, s. to James and Catherine Burk, in Tucker's-row [now Sackville-place].
 June 30. Patrick, s. to John and Mary Kelly, in the Market.
 July 3. John, s. to Bryan and Catherine Duffy, Church-street.
 July 3. Terrence, s. to Patrick and Bridget Magummary, Pill-lane.
 July 4. Mary, dau. to Peter and Margaret Lawler.
 July 11. James, s. to Robert and Ann Mercer.
 July 13. Ann, dau. to Thomas and Bridget Welsh, Market.
 July 14. Patrick, s. to John and Elinor Wall, upper end of Britian-street.
 July 14. John, s. to Andrew and Jane Egan, Frapper-lane.
 July 17. Eleonor, dau. to Laurence and Bridget Darby, Broad Stone.
 July 17. Margaret, dau. to Will. and Juggy Renolds, Frapper's-lane.
 July 17. James, s. to John and Catherine Boyde, Caple-street.
 July 17. An, dau. to James and Mary Lynch, on the Strand.
 July 17. Dennis, s. to Thos. and Margaret Bergin, St. Mary's-lane.
 July 18. Margaret, dau. to Samuel and Honory Foster, in Anderson's-court.
 July 22. Ann, dau. to Patrick and Mary M'Vagh, Church-street.
 July 25. James, s. to John and Margaret Donough, World's End [now Montgomery-street].
 July 25. Ann, dau. to George and Jane Field, Moors-street.
 July 25. John, s. to Andrew and Mary Boylon, near ye Strand.
 July 26. James, s. to Patrick and Ann Miler, Cross-lane.
 July 26. James, s. to Owen and Mary Gilmer, Turnikin-lane.
 July 26. James, s. to Mathew and Jane Bowing, Mary's-lane.
 July 26. James, s. to Will. and Ann Develin, Frapper's-lane.
 July 27. Ann, dau. to James and Jane Boylon, Frapper's-lane.
 July 27. James, s. to Thady and Letice O'Neale, Drumcondra-lane.
 July 27. Thomas, s. to Hugh and Mary Reily, Church street.
 July 28. Wm., s. to Mathew and Honora Coulter, Frapper's-lane.
 July 29. James, s. to Patrick and Rose Begg, Ormond Key.
 July 29. Richard, s. to James and Margery Downey, in St. Mary's-lane.
 July 30. Mary, dau. to David and Esther Nolan, in Stable-lane.
 July 31. Sarah, dau. to Patrick and Mary Conelly, in Cherry-lane.
 July 31. Thomas, s. to Abraham and Margaret Daren, in Tucker's-roo.
 July 31. Patrick, s. to Matthew and Mary Plunkett, Pill-lane.
 July 31. Ann, dau. to James and Elinor White, Abbey-street.
 July 31. Ann, dau. to Thomas and Catherine Miler, Drumcondra-lane.
 Augt. 1. Else, dau. to John and Bridget Mathews,

in the Chapple; *g.f.*, and *g.m.*, Daniel Smith and Margaret Jackson.
 Augt. 2. Edmond, s. to Edmond and Catherine Edwards, in the Chapple; *g.f.*, and *g.m.*, Hugo Carroll and Margeret Meade.
 Augt. 2. John, s. to Michael and Mary Commons, Pill-lane.
 Augt. 4. John, s. to Patrick and An Byrne, in King-street.
 Augt. 6. Lawrence, s. to Nicholas and Juggy Purcell, King's-street.
 Augt. 7. Elizabeth, dau. to Richard and Mary Hartford, Ormond's Key.
 Augt. 7. Catherine, dau. to Walter and Bridget Mahony, Dromcondra-lane.
 Augt. 8. Dominick, s. to Patrick and Mary Corcaran, in Church-street.
 Augt. 9. Patrick, s. to Bryan and Mary Sweeny, in Charles-street.
 Augt. 9. Elisiss, dau. to Roger and Bridgot M'Daniel, in Mountrath-street.
 Augt. 10. Mary, dau. to Bryan and Ann Kelly, in Cherry-lane.
 Augt. 10. Laurence, s. to Miles and Mary Innings, in St. Mary's-lane.
 Augt. 10. Dominick, s. to Thomas and Catherine Kernan, Pill-lane.
 Augt. 12. Mary, dau. to Will. and Sarah Dungan, Boot-lane.
 Augt. 12. Mary and Ann, daus. to Patrick and An Heeney, Caple-street.
 Augt. 13. Thos. s. to John and Margaret Wollocks, Caple-street.
 Augt. 14. Catherine, dau. to Patrick and Elizabeth Russell, Frapper-lane.
 Augt. 14. Thomas, s. to Edward and Agnes Gorman, Abbey-street.
 Augt. 15. Mary, dau. to Robert and Catherine Dorson, near the Broad Stone.
 Augt. 16. Bryan, s. to Edmond and Bridget Mathews, Abbey-street.
 Augt. 16. Mary, dau. to Edmond and Grace Duffey, St. Mary's-lane.
 Augt. 17. John, s. to Nicholas and Catherine Kelly, in the Chapple; *g.f.* and *g.m.* Patrick Gilshevan and Elizabeth Farrell.
 Augt. 18. Luke, s. to John and Catherine Darcy, in Bolton-street.
 Augt. 18. Laurence, s. to Edmond and Ann Dugan, Sturup-lane.
 Augt. 18. Bartholmew., s. to John and Elinor M'Daniel, in Pill-lane.
 Augt. 19. Isabell, dau. to Arthur and Catherine Connor, in the Chapple.
 Augt. 19. John, s. to John and Sarah Reily, on the Bachelor's Walk.
 Augt. 19. Ann, dau. to Arthur and Margaret Molloy, in Frapper's-lane.
 Augt. 20. Mary, dau. to Thomas and Mary Warin, in Fisher's-lane.
 Augt. 21. James, s. to James and Bridget Andrews, in Church-street.
 Augt. 23. James, s. to James and Catherine Cleton, Apple Key [*sic*].
 Augt. 24. Laurence, s. to Edward and Easter Parcely, Caple-street.
 Augt. 24. John, s. to Richard and Ann Hern, Little Strand-street.
 Augt. 25. Thomas, s. to John and Jane Flanagan, in Liffey-street.
 Augt. 28. Margaret, dau. to Richard and Catherin Jennet, Church-street.
 Augt. 30. Jane, dau. to Roger and Elizabeth Moore, in Pill-lane.
 Augt. 31. Michael, s. to Michael and Mary Connor, in St. Mary's-lane.
 Augt. 31. William, s. to Richard and Margaret Carty, in Charles-street.
 Sept. 1. Thomas and Mary, s. and dau. to Adam and Ann Donnelly, in Jervis-street.
 Sept. 1. Richard, s. to John and Mary Butterly, in Swifts-roo.
 Sept. 2. Elizabeth, dau. to Ignatius and Mary Jones, in Mary's lane.
 Sept. 3. Bridget, dau. to William to Catherine Byrn, in Charles-street.
 Sept. 4. Christain, dau. to Thomas and Jane Ennis, in St. Mary's-lane.
 Sept. 4. Peter, s. to Thomas and Mary Danders, in the Chapple.
 Sept. 4. John, s. to Michael and Mary Darcy, in Boot-lane.
 Sept. 4. Margaret, dau. to Hugh and Juggy Evers, in Church-street.
 Sept. 4. James, s. to Loughlin and Mary Caffery, White Lyon-court.
 Sept. 4. Mary, dau. to Thomas and Mary Birmingham.
 Sept. 5. Philip, s. to John and Juggy Flood, Tucker's-roo.
 Sept. 5. John, s. to John and Agnes Long, in King-street.
 Sept. 5. James, s. to Patrick and Margaret Connell, Church-street.

Sept. 6. Augustine, s. to Patrick and Mary Dod, on the Strand.
 Sept. 6. Mary, dau. to John and Sarah Garland, in St. Mary's-lane.
 Sept. 7. Mary, dau. to John and Ann Dowlin, in the Market.
 Sept. 7. Mary, dau. to Hugh and Elinor Connor, in Boot-lane.
 Sept. 8. Francis, s. to James and Mary Nowlan.
 Sept. 8. Michael, s. to John and Dorothy Heeney, in the Market.
 Sept. 8. Daniel, s. to Henry and Catherine Cain, in Charles-street.
 Sept. 9. James, s. to Peter and Mary Carbery, Pill-lane.
 Sept. 9. Mary, dau. to Edward and Ann Dungan, in Mass-lane.
 Sept. 10. Dennis, s. to Owen and Ann Green, in Bolton-street.
 Sept. 11. Patrick, s. to Patrick and Margaret Blake, in Tucker's-roo.
 Sept. 11. John, s. to Maurice and Elinor Coghlan, on the Strand.
 Sept. 12. Elizabeth, dau. to Patrick and Jane Higgins, in St. Mary's-lane.
 Sept. 13. Wm., s. to John and Mary Hearn, in Charles-street.
 Sept. 14. Nicholas, s. to Nicholas and Ann Fitzgerald, in St. Mary's-lane.
 Sept. 14. James, s. to Patrick and Catherine Connelly, in St. Mary's-lane.
 Sept. 15. John, s. to Mathew and Honory Carter, in Tucker's-roo.
 Sept. 16. Elizabeth, dau. to Loughlin and Susanna Mortagh, in Liffey-street.
 Sept. 17. Catherine, dau. to Dennis and Elinor M'Dermot, in Church-street.
 Sept. 18. Mary, dau. to Thomas and Mary Moore, in Proper-lane.
 Sept. 18. Randel, s. to Cornelius and Catherine M'Daniell, in Mass-lane.
 Sept. 19. Margaret, dau. to Michael and Mary Warrin, in the Cloysters.
 Sept. 19. Rose, dau. to Owen and Margary Reily, in St. Mary's-lane.
 Sept. 20. Ann, dau. to Nicholas and Ann Ball, in St. Mary's-street.
 Sept. 20. Margaret, dau. to Peter and Mary Kennedy, in St. Mary's-lane.
 Sept. 21. Mathew, s. to John and Mary Griffin, in Dromcondra-lane.
 Sept. 21. Susanna, dau. to Daniel and Catherine Korke, in Peticoate-lane.
 Sept. 22. Ann, dau. to Richard and Ann Mullin, in Pill-lane.
 Sept. 22. Margaret, dau. to Arthur and Mary Savage, in Brittain-street.
 Sept. 25. Michael, s. to Peter and Jane Duff, at the World's End.
 Sept. 25. Mary, dau. to Wm. and Margaret Dickson, in Henry-street.
 Sept. 26. Michael and Martha, s. and dau. to Laurence and Ann Bryan, in Cow-lane.
 Sept. 26. Ann, dau. to John and Elizabeth Bryan, in St. Mary's-lane.
 Sept. 27. Mary, dau. to John and Catherine Ryan, in Pill-lane.
 Sept. 27. John, s. to John and Jane Jordan, in Turnekin-lane.
 Sept. 27. Margaret, dau. to Tho. and Mary Branagan, in Proper-lane.
 Sept. 28. Michael, s. to Michael and Mary Clark, in Glasmonog [now Constitution-hill].
 Sept. 28. Catherine, dau. to Edw. and Jane Wall, in Bolton-street.
 Sept. 29. Walter, s. to Christopher and Catherine Golding, in Mountrath-street.
 Oct. 1. Catherine, dau. to Hugh and Margaret Daly, in the Chapple.
 Oct. 2. Mathew, s. to Arthur and Sarah Plunket, in Gt. Brittain-street.
 Oct. 2. Michael, s. to John and Jane Caunon, in White Lyon-court.
 Oct. 2. Michael, s. to Tho. and Mary Barry, in St. Mary's-lane.
 Oct. 2. Mich. s. to Neal and Margaret Carpenter, in Coal-lane.
 Oct. 2. Frances, dau. to John and Ann Murphy, in St. Mary's Abby.
 Oct. 2. Ann, dau. to John and Margret Mullally, Mountrath-street.
 Oct. 2. Elizabeth, dau. to Joseph and Elinor Kelly, Broadstone.
 Oct. 3. Michael, s. to James and Mary Garregon, in Boot-lane.
 Oct. 5. Michael, s. to Henry and Sicily Connelly, in Charles-street.
 Oct. 7. John, s. to Arthur and Catherine Magogan, in Cherry-lane.
 Oct. 7. John, s. to Laurence and Mary Kenna, in Church-street.
 Oct. 7. Margaret, dau. to James and Catherine Byrne.
 Oct. 9. Rose, dau. to Dennis and Jane Murphy, on Ormond Key.

Oct. 9. John, s. to John and Catherine Anderson, in the Market.
 Oct. 10. Patrick and Sarah, s. and dau. to Owen and Judith Trener, Mary's-lane.
 Oct. 11. Johanna, dau. to Edmond and Elisabeth Doran, Fisher's-lane.
 Oct. 13. Margaret, dau. to Wm. and Judy Drake, in Charles-street.
 Oct. 16. James, s. to Moses and Ann Murry, in Church-street.
 Oct. 16. Thos., s. to Michael and Margrett Hamilton, Church-street.
 Oct. 17. John, s. to John and Catherine Anderson, in the Market.
 Oct. 17. Catherine, dau. to Thos. and Catherine Manshon, in Cherry-lane.
 Oct. 18. Lambert, s. to Thos. and Mary Leigh, in Fisher's-lane.
 Oct. 18. John, s. to John and David [sic] Barber, in Little Strand-street.
 Oct. 19. Mary, dau. to George and Elinor Connor, in Propper-lane.
 Oct. 19. Luke, s. to Wm. and Elinor Coffee, in Liffey-street.
 Oct. 19. Francis, s. to Patrick and Elizabeth Bride, in Johnson's-alley.
 Oct. 21. Ann, dau. to Richard and Catherine Heeney, in Mary's-lane.
 Oct. 22. Luke, s. to Thomas and Catherine Cavenagh, in Church-street.
 Oct. 23. Elinor, dau. to Robt. and Margaret Fullom, in Strand-street.
 Oct. 23. John, s. to Daniel and Catherine Cowell, in Abbey-street.
 Oct. 23. Thos., s. to Christopher and Margrett Kernan, Drogheda-street, on ye Strand [now Lower Sackville-street].
 Oct. 24. Simon, s. to Patrick and Jane Sutton, in Dromcondra-lane.
 Oct. 24. Patrick, s. to Stephen and Elizabeth Barry, in Dromcondra-lane.
 Oct. 25. Simon, s. to Thos. and Margaret Quin, in Church-street.
 Oct. 29. Catherine, dau. to Loghlan and Mary Egan, in Pill-lane.
 Oct. 29. John, s. to Christopher and Mary Ledwidge, in Ballibogh-lane.
 Oct. 29. Simon, s. to Chrstr. and Mary Daly, on the Strand.
 Oct. 30. Michael, s. to David and Allice Ennis, in Dromcondra-lane.
 Oct. 31. Philip, s. to Con. and Jane Rourk, in Turnekin-lane.
 Nov. 1. Francis, s. to Francis and Jane Darcy, in the Chapel.
 Nov. 1. Chrstr. and Margt. s. and dau. to John and Alley Callegan, in Arran-street.
 Nov. 3. Agnes, dau. to Thady and Margt. Allen, in the Market.
 Nov. 7. Ann, dau. to Daniel and Sarah Molloy, in Strand-street.
 Nov. 8. Catherine, dau. to Patk. and Catherine Reath, in St. Mary's-lane.
 Nov. 8. Margaret, dau. to Robert and Mary Kelly, in Abbey-street.
 Nov. 10. Lucy, dau. to Wm. and Elinor Fitzgerald, in Swift's-roo.
 Nov. 13. Honora, dau. to Patrick and Mary Murphy, in ye Upr. ead of Church-street.
 Nov. 13. Ann, dau. to John & Alice Reily, in Pill-lane.
 Nov. 15. Mary, dau. to Garrett and Catherine Purcell, in Boot-lane.
 Nov. 15. Mary, dau. to Thady and Winifrett Connor, in Church-street.
 Nov. 16. George, s. to Thos. and Elinor Bryan, in the Little Greene [now Green-street].
 Nov. 16. James, s. to Mathias and Margaret Clark, in St. Mary's-lane.
 Nov. 17. Catherine, dau. to Walter and Margaret Dorham, in Abhy-street.
 Nov. 17. John, s. to Edward and Mary Field, in Church-street.
 Nov. 19. Ann, dau. to Mathew and Bridget Dillon, in Strand-street.
 Nov. 19. Elizabeth, dau. to John and Mary Swords.
 Nov. 20. Margaret, dau. to Richard and Ann Neale, in Swift's-roo.
 Nov. 22. Patrick, s. to John and Elizabeth Maddin, in the Chapel.
 Nov. 25. Catherine, dau. to John and Rose Byrne, Charles-street.
 Nov. 25. Edwd. s. to Martin and Sarah Doyle, Boot-lane.
 Nov. 25. Richard, s. to Thomas and Ann Maginnis, in Mountrath-street.
 Nov. 25. Wm. s. to Patrick and Catherine Brangan, on the Strand.
 Nov. 28. Margaret, dau. to Nicholas and Esther Car, in Arran-street.
 Nov. 28. Nicholas, s. to John and Mary Reily, in Boot-lane.
 Nov. 28. Robert, s. to Joseph and Margaret Coderwood, in Mountrath-street.

Nov. 29. Mary, dau. to Charles and Catherine M'Dermott, St. Mary's-lane.
 Nov. 30. Andrew, s. to James and Mary Hues, in Church-street.
 Nov. 30. Catherine, dau. to Wm. and Mary Reed, in Cagle-street.
 Nov. 30. Mary Aylmer was christened ye 28th. Mrs. Moor of Drogheda, god mother, Mr. James Bryan, god father, 9her 1727. [This entry is in Dr. John Linegar's handwriting.]
 Dec. 2. John, s. to John and Hanna Dempsey, in Pill-lane.
 Dec. 4. Philip, s. to John and Catherine Hart, in Liffey-street.
 Dec. 7. Margaret, dau. to John and Else Mullegan, in Liffy-street.
 Dec. 10. James, s. to Francis and Ann Gough, Turnikin-lane.
 Dec. 10. Francis, s. to Patrick and Mary Tracy, in St. Mary's-Abby.
 Dec. 11. Elinor, dau. to John and Margaret Kenny, in Flag-alley.
 Dec. 12. Thomas, s. to Francis and Margrett Darcy, New Market.
 Dec. 12. Mary, dau. to Barthw. and Margret Duff, in the Market.
 Dec. 12. Mary, dau. to John and Margaret Ross, in Liffy-street.
 Dec. 13. Elinor, dau. to John and Mary Ferrell, in Cole-lane.
 Dec. 13. Thomas, s. to Patrick and Margaret Hues, in Tucker's-roo.
 Dec. 13. Christ., s. to Edward and Margaret Fitzgerald, in Dromcondra-lane.
 Dec. 13. Andrew, s. to Richard and Mary Bristo, in Pill-lane.
 Dec. 15. Mary, dau. to Mathew and Ann Morgan, in Frapper's lane.
 Dec. 15. Thomas, s. to John and — Peppard, Church-street.
 Dec. 15. Elizabeth, dau. to Peter and Alice Duff, in Arran-street.
 Dec. 15. Judith, dau. to John and Elizabeth Farrell, in Pill-lane.
 Dec. 18. Elizabeth, dau. to Chrstr. and Elinor Barry, Petticoat-lane.
 Dec. 18. Bridget, dau. to Jeremiah and Margret Ryan, in Bull-lane; *g.f.* Mr. George Peppard *g.m.* Mrs. Daniel.
 Dec. 19. John, s. to Wm. and Elizabeth Moore.
 Dec. 22. Mary, dau. to Richard and Mary Gernon, in Church-street.
 Dec. 22. Thomas Castels was baptised in Henry-street. *g.f.* Patrick Higgins; *g.m.* Sally Shepard.
 Dec. ye 21. Patrick Bellew, son to Mr. Edward Bellew, was christened in Charles-street, the Ld. Bellew, godfather; Councillor Dillon's wife god-mother. [After this entry, is written in a more modern hand, the following: "hy ye new archbishop."]
 Dec. 29. Wm., s. to Morgan and Margaret Norton, Glasmanoge.
 Dec. 30. John, s. to Edward and Ann Kindelon, King-street.

MARRIAGES.

1726.

Feb. 22. Bryan Kerehan and Anne Bolton, in ye presence of Mr. Halfpenny and others.
 Mar. 6. Michael Carroll and Margaret Domnickin.
 April 7. John Butler and Anastace Byrn.
 April 10. Thomas Devine and Cathren Andrews. Witness present, Mr. Beaux, Ryan, Fitzpatrick, [By Rev. John Linegar].
 April 12. James Mallan and Elinor Bellew.
 April 14. Henry Welsh and Elizabeth Devitt.
 April 17. James White and Elinor Higgins.
 April 18. William Bealy and Bridget Calan.
 April 26. Richard Bryan and Margaret Green.
 May 8. Simon Doyle and Catherine Healy.
 May 10. Thomas Rafford and Mary Car.
 May 10. Thomas Lawless and Margret M'Hugo.
 May 12. Michael Reed and Elizabeth Finiging.
 May 11. Arthur M'Sherry and Mary Lynch.
 May 12. Owen Rourk and Rose Blunt.
 May 22. Francis Quin and Mary Galbahor.
 May 22. James Garah and Elinor Mohaill.
 June 6. Christopher Sweetman and Jane Archer.
 June 12. John Commons and Rose Heuery.
 July 17. John Shenky and Margaret Scully.
 July 20. Roger Logan and Catherine Dey.
 July 28. Patrick Edwards and Ann Byrne.
 July 29. James Flood and Mary Dunn.
 July 31. Michael Calan and Bridget Austin.
 Aug. 7. Christopher Ugan [? Wogan] and Catherine Sweeney.
 Aug. 10. Peter Carroll and Margaret Mullinaux.
 Aug. 13. Charles M'Daniel and Catherine Neale.
 Aug. 18. Robert Clark and Jane Dulin [? Doolin].
 Aug. 20. James Hanlon and Elinor Davis.
 Aug. 21. John M'Canna and Juggy Bryan.
 Sept. 4. Alexander Evers and Catherine Loughlin.
 Sept. 4. William Dillon and Elinor O'Bryan.

Sept. 14. George M'Daniell and Margaret Gihney.
 Sept. 25. Daniel Brennan and Catherine Sheridan, in the Chapel. Witness present, Patrick and John Sheridan, and Martha Hardford.
 Sept. 29. James White and Margaret Hoy.
 Sept. 29. Patrick Crummy and Elizabeth Allen.
 Oct. 6. Daniel Gore and Bridget Fleming.
 Oct. 9. John Smith and Margaret Fitzpatrick.
 Oct. 18. John Norton and Elizabeth Peiroe.
 Oct. 18. Thomas Kelly and Jane Plunket.
 Oct. 20. Daniel Cahil and Mary O'Bryan.
 Oct. 23. Francis Burk and Catherine Healy.
 Oct. 27. Richard Hannin and Mary Field.
 Oct. 27. John Ball and Elinor Crosby.
 Nov. 2. Mathew Mullan and Mary Leacy.
 Nov. 3. Richard Hore and Elinor Eustace. Witnesses, Richard Eustace, Rowland Eustace, and Michael Carroll.
 Nov. 9. James Hogg and Mary Byrn.
 Nov. 13. Patrick Wesman and Mary Byrne.
 Nov. 14. Patrick Brady and Elinor Dempsey.
 Nov. 14. Peter Trenor and Sarah Magrah.
 Nov. 17. Thos. Fitzpatrick and Mary Loony.
 Nov. 17. Edward Delamaer and Ann Trimston.
 Nov. 25. Thomas Gould and Catherine Connell.
 Nov. 28. James Corregon and Catherine Martiu, in Boot-lane.
 Nov. Robert Farrell and Christian Sheal.
 Dec. 22. Garrat Dillon, of Shleevin was marry'd to Mrs. Mary Hillwood. Mr. Arthur Plunket, his wife and son James, as alsoe Mrs. Proby being present
 (To be continued.)

NOTES OF WORKS.

We notice that the extra wing to the Old Men's Asylum, Leeson Park, is now being erected. This wing was contemplated by the architect, the late Mr. William G. Murray, R.H.A., and is now being carried out by his son, Mr. Albert E. Murray, F.R.I.B.A. The wing will provide an infirmary, a laundry, and many *et ceteras* badly needed in the institution. Mr. H. Sharpe is the general contractor; Mr. Curtis, William-street, contractor for plumbing and heating.

Extensive alterations and additions are being carried out at Grace Dieu, County Waterford, the seat of T. W. Anderson, Esq. Mr. Albert E. Murray, F.R.I.B.A., is the architect, and Mr. J. Keirnan, the contractor.

On the 18th ult., a new chancel for the parish church of Leix, diocese of Kildare, was dedicated by his Grace Lord Plunket, Archbishop of Dublin. The cost of the entire work was somewhat over £300. A beautiful lectern in oak was presented by the Trench family, of Glenmalur, in memory of the late Henry Trench, J.P., D.L. Other expenses connected with the chancel fittings are to be borne by Miss Trench. Mr. J. F. Fuller, F.S.A., of this city, was the architect, and Mr. J. Greene, of Portarlinton, contractor for the building work.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The Session of 1892-93 will open on Monday next, the 7th inst., when the President, Mr. J. Macvicar Anderson, will deliver an Address.

TENDERS.

For main drainage works, Belfast, contract No. 7. Mr. J. C. Bretland, engineer:—

| | |
|---|---------|
| R. C. Brehner | £41,106 |
| Dixon and Campbell | 39,930 |
| Workman and Co. | 30,500 |
| James Perkins | 30,261 |
| James Henry | 29,832 |
| H. and J. Martin, Limited (accepted) .. | 29,047 |

For the warming of the Government Clothing Factory, Limerick:—

| | |
|-----------------------------------|------|
| John Grundy, London (accepted) .. | £100 |
|-----------------------------------|------|

For the construction of a new sewer in Avoca-avenue, Blackrock, for the Township Commissioners:—

| | |
|--------------------------|----------|
| R. W. Sharpe | £330 0 0 |
| John Good | 290 0 0 |
| G. Dixon | 237 0 0 |
| H. and J. Martin | 233 0 0 |
| J. J. Long | 194 7 0 |
| Robert Sexton | 149 0 0 |
| R. Simpson (accepted) .. | 129 10 0 |

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

THE Session for 1892-93 of the above institution will commence on December 7th next. The evening meetings will be held in the New Hall, 35 Dawson-street.

MISCELLANEOUS.

BELGIUM IRON.—Six years ago Belgium sent only some 8,000 tons of iron to India. Last year the quantity had increased to 38,800 tons, and this augmentation appears to be a large extent to be at the expense of British exports. The imports consist chiefly of bar, angle, sheet, and galvanised iron, beams, pipes, and tubes. Steel imports show a rapid advance, and Belgium is said to be doing a considerable trade.

ROYAL COLLEGE OF SCIENCE, DUBLIN.—At the meeting of the Council of the Royal College of Science, held on the 5th inst., a letter was read from H. M. Commissioners for the Exhibition of 1881, announcing that they had been pleased to place at the disposal of the College a science scholarship of the annual value of £150 for the year 1893. These scholarships are specially instituted for the encouragement of scientific research, and are tenable for two years, and one of them has already been nominated to, by the Council of the College, for the year 1891-92.

A complete peal of bells, which will be excelled in the Metropolis only by the great peal of St. Paul's Cathedral, is to be placed in the central or "Queen's" tower of the Imperial Institute, South Kensington. The bells are to be 10 in number, and will be known as the "Alexandra" peal. The tenor will be two tons in weight, the total weight of the 10 bells being over eight tons. When placed, the peal will be the highest in the country, as the bells are to swing in a chamber 200 ft. above the level of the ground floor of the main building. The bells are the gift of an Australian lady to the heir to the throne, and the only condition specified by the donor is that they shall be rung on the birthday and accession day of the Sovereign and on the birthdays of the Prince and Princess of Wales. They are to be fully completed and will be rung on the occasion of the inauguration of the institute by the Queen next year.—*Invention.*

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And guy ropes tightened with skewers of wood.

Up with the carcass and down with the scaffold;
Plaster and paint fust, and varnish the shell.
Flats will be born for bargains, and baffled,
And houses, like other things,—“Built to Sell!”

CE.

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Illustration.

TERRACE OF HOUSES, SANDYMOUNT AVENUE,
PEMBROKE TOWNSHIP, DUBLIN.

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All communications for the literary department of this journal should be addressed to "The Editor."

Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42 Mabbot-street, Dublin, whose receipt alone is recognised.

It is to be distinctly understood that although we give place to letters of correspondents, we do not in all cases subscribe editorially to the opinions or statements set forth in same.

It is respectfully requested that all parties indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

We shall be glad to receive notes of works in contemplation or in progress in town or country.

Correspondents should send their names and addresses, not necessarily for publication.

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ROYAL COLLEGE OF SCIENCE,
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SESSION 1892-93.

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The Fees payable by Non-Associate Students are—£2 for each separate Course of Lectures, £1 for half Course of Experimental Physics, or £10 for all the Lecture Courses of a Faculty, for the Session.

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FOR ASSAYING—£5 for three months, £9 for six months, £12 for the entire Session.

FOR ZOOLOGICAL LABORATORY—£2 for a Special Course of one month; £3 for 1st Medical or 2nd Arts Course Royal University of Ireland; or £5 for a Special Course of three months.

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GEOLOGY ... Professor G.A. J. COLE, F.G.S., Dean of Faculty for the Session.

MINING AND MINERALOGY ... Professor J. P. O'REILLY, C.E., M.R.I.A.

BOTANY ... Professor T. JOHNSON, D.Sc., F.L.S.

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The Courses of Chemistry, Physics, Botany, Zoology, Geology, and Mineralogy, are recognised by the Royal University of Ireland, and Certificates of attendance are granted to medical and other students attending the courses, and the Chemical, Physical, Botanical, and Zoological Laboratories.

Programmes may be obtained on application at the College, or by letter addressed to the Secretary, Royal College of Science, Stephen's Green, Dublin.

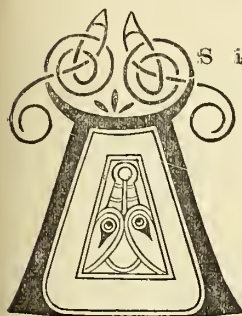
The first term of the session commenced on Monday, the 3rd October, 1892.

NOTE.—Intending Associate Students will be required to pass an Entrance Examination in Elementary Mathematics and Elementary Practical Geometry, as indicated on Page 5 of Programme, copies of which may be had on application from the Secretary.

PROFESSOR J. P. O'REILLY, Secretary.

THE IRISH BUILDER.

VOL. XXXIV.—No. 790.

THE
NATIONAL REGISTRATION OF
PLUMBERS.

IS introductory to our special report of the third annual meeting of the Dublin Branch of the National Association of Plumbers, we quote a passage from some remarks made by a Master Plumber of Belfast,

whilst, a few months ago, discussing the merits of a paper on "House Sanitation," read by Mr. William Gray, M.R.I.A., First Assistant Surveyor, Office of Public Works, Belfast District. "I consider," said Mr. Winnington, "Mr. Gray's lecture a very interesting one; but before I sit down I wish to draw your attention to another matter. We have been favoured during this winter with a series of lectures, in this place, on the health of our homes, two of them having very particular reference to this same question of plumbing work, one by Professor Sinclair, and the other by Dr. Byers, and now this paper of Mr. Gray's, all showing the importance which is attached to this subject by eminent and public men, but they have left us at a point without providing for having their recommendations carried into effect; for, if the suggestions and instructions conveyed are to be carried out, this cannot be done except by competent and tried men. For this purpose I would direct your attention to the important subject of the 'National Registration of Plumbers,' under the provisions of which you have a list of capable and qualified men, to whom you may entrust your work, with a reasonable expectation that it will be properly attended to and done; and I think it would be well for gentlemen like Mr. Gray to take note of this, so that they might give this movement all the encouragement possible, as they will find it deserving of it."

ANNUAL MEETING.

On Thursday evening, 10th instant, the annual public meeting of the "National Registration of Plumbers" (in connection with the Worshipful Company of Plumbers, London), comprising the District Council for the Provinces of Leinster and Connaught, was held in the Antient Concert Rooms, Great Brunswick street.

Among those present were:—

The Right Hon. the Lord Mayor, LL.D.; Sir Charles Cameron, M.D., Medical Officer of Health; Prof. Anthony Roche, D.P.H.; Spencer Hart, C.E., Borough Surveyor; W. K. Parry, M.A., B.E., F.C.D. (Hon. Sec.); J. C. Wilmot, C.E., architect; Albert E. Murray, F.R.I.B.A.; Mervyn P. Crofton, Supervisor Waterworks; E. H. Ennis (Sec. Lord Chancellor); P. B. Antisliff; Edmond J. McWeeney, M.Ch.; P. Shelley (President Trades Council); H. Johnson, C.E.; J. J. Clarke (Vice-President Trades Council); A. L. Morrison (Manchester); James Adam (Brown and Son); Isaac Molloy, Chairman Kingstown Commissioners; Thomas W. Little; W. P. Curtis; J. McManus; William Baird; L. P. Branigan (Drogheda); R. Marshall; John Smith; P. Lennon (Sec. Drogheda Lodge of Plumbers); T.

Simmons (Sec. Trades Council); W. A. Kelly; Chas. Levers (Evered and Co., London); Wm. Thompson (*Irish Builder*); William Thorburn; L. Jameson (Burney and Co., London); A. O'Brien; P. Dowd (Assist. Hon. Sec.); Wm. C. Walsh; C. McKenzie; J. Tait (Thos. W. Twyford, Henley); Thomas Baird; C. McManara; W. B. Morgan; John Ballantine; R. Tisdall (Upholsterers' Society); J. Swan (Smiths' Society); Wm. R. Emery; J. Hendrick.

On the motion of Isaac Molloy, Esq., J.P., Chairman of the Kingstown Commissioners, the chair was taken by

The Right Hon. the LORD MAYOR.

Mr. D. P. Curtis read the annual report, from which we take the following extracts:—

The Registration movement continues to make steady progress. The Plumbing Classes have been well attended, the average number of Pupils being twenty-two. During the session a course of five lectures was delivered on subjects connected with Plumbing. Mr. J. W. Gardiner, C.E., lectured on Drain Laying; Mr. Wm. Baird, on Pumps, Rams, and Turbines; Mr. Bowie, on Hot Water Heating and Circulation; Mr. W. Kaye Parry, on Sewage Disposal; and Mr. John Ring, on Baths, Toilet Stands and Sinks. At the close of the session an examination was held for prizes and certificates offered by the Worshipful Company of Plumbers. Very creditable work was done by the students, and the Worshipful Company have, on the recommendation of the examiners, made the following awards:—Prizes to Robert Corrad and Daniel Dowd. Certificates to Charles Doyle and John Ring, jun. The Council feel that this movement, which was established in the interests of the Public Health, is worthy of support, and they venture to hope that the Dublin Corporation may see their way to contribute an annual grant, under the powers conferred on them under the Technical Schools Act. The training and education of plumbers' apprentices with a view to preparing them for registration as qualified plumbers, is a work which must, if properly carried out, beneficially affect the health of the community, for it is a matter of notoriety that many dangers to health arise from bad and scamped Plumbing work. The resignation of the post of Hon. Treasurer by Mr. W. Baird has been received with much regret, and Mr. J. McManus has been elected to the vacant position. The Council have also to announce with great regret that Mr. P. Dowd has found it necessary to resign the appointment of teacher to the Plumbing Classes. They cannot allow this opportunity to pass without placing on record their sense of the obligations conferred upon the Registration movement by Mr. Dowd. He has not only acted as Assistant Hon. Sec. to the council since the inception of the movement, a position which he still continues to fill, but during the past session Mr. Dowd gave his services voluntarily as teacher of the Plumbing Classes, and the efficient, zealous, and successful way in which he discharged his duties left nothing to be desired. Mr. H. Fegan has been appointed to succeed Mr. Dowd as Teacher. An examination of candidates for Registration was held on the 16th and 17th of February, 1892, when seventeen candidates presented themselves; many of them had travelled considerable distances to submit themselves for examination. Thirty-five per cent. of those who were examined have been registered by the Worshipful Company, and the certificates will be presented this evening. The District Council regret to say that the Registration Bill presented by the Worshipful Company, and approved of by all the councils in the kingdom, has not yet become law; but it is confidently anticipated, from the favorable attitude of the Committee of the House of Commons, that this useful legislative enactment will be placed upon the statute-book during the coming session of Parliament. Two petitions in favour of the bill were forwarded from Dublin—one from the Corporation and one from a number of representative citizens. The council is strongly of opinion that in the future the vacancies occurring in the Corporation staff of Water and Sanitary Inspectors should be filled by qualified plumbers; and, with this object in view, a deputation was appointed to wait upon the Public Health Committee, but up to the date of this report no opportunity has been afforded to the deputation to lay their views before the committee. Civil engineers and architects are again requested to insert a clause in their specifications that the plumbing work shall be executed only by registered plumbers. The council venture to suggest that such a clause would be a protection to the public, and would serve as a great stimulus to the movement, as the only way to encourage registration among the men, is to make them feel that their status is improved when they have won the certificate of the Plumbers' Company.

Mr. McManus (treasurer), submitted the statement of accounts, which showed a

balance to credit, on October 1st, of £61 7s. 11d.

Letters of apology were read from Alderman Shanks (Lord Mayor Elect), Wm. Findlater, Esq.; Sir Francis MacCabe, the President of the Royal College of Physicians, the President of the Institution of Civil Engineers in Ireland, Mr. Robinson, architect, and Mr. Deane.

Mr. Shelley (President of the Trades Council), in proposing the adoption of the report and statement of accounts, said he was pleased to see that, while beginning the year largely in debt, they wound up their year with a balance to their credit. They must remember that while this institution was doing the public work, their contention was that from the public rates at least should come a portion of the expenses to work the Registered Plumbers' Association. They knew in this city of theirs, of all places in the world, a great deal of sanitary improvements could be made, and not alone that they could be made, but that they should be made, and he hoped that the Public Health Committee of the Corporation would see their way to receive a deputation from the Registered Plumbers' Association, and that this new rate of 1d. in the pound that was about to be levied on the ratepayers of the city, or a portion of it, would find its way to such a useful institution as this.

Dr. Anthony Roche, in seconding the resolution, said he considered this association as one of the greatest possible use, from a sanitary point of view. It had largely to do with domestic sanitation, which was not by any means a small part of the public health. In dealing with domestic sanitation, there were two or three hands it must come through. The medical man, as the adviser of the family, should have some knowledge, and should have his word in the matter. It came then to the engineers to draw up the plans, and it finally came to the members of this association to carry out the theory and the plans laid down for them. It was perfectly plain that no matter how carefully the plans and schemes might be laid down, unless the man who carried them out was educated and fit to do his work, all the best arranged plans would fall through. For that reason he looked upon this association as of particular importance. Coming more directly to the report, he was glad to see that they gave a course of practical lectures during the year, and that they held examinations, which were kept up to a high standard. He had some experience in that way, and he believed the more practical they made the lectures, the better. At the examinations he was not sorry to see that they rejected a considerable number of candidates, because, as he said, if examinations were worth anything, they should be kept up to a high standard. A man may feel irritated for the time being if he is rejected, but they knew that when they did pass eventually, they will quite agree with the examiners as to the high standard of examinations, and the certificates would be more thought of. The only thing unsatisfactory about the report was the financial question, but he agreed with the proposer of the resolution that the finances were not so bad now as they were at the beginning of the year. The society had strong claims on the public for support, and a few hundred pounds would be well spent in promoting the objects of a society like it. The great want was proper technical education. There was plenty of primary education, intermediate education, and even university education, and he even thought a deal of the money spent on intermediate education could be well spent in technical training. He had pleasure in seconding the resolution.

The Lord Mayor, in putting the resolution, said he thought Mr. Shelley, in his statement, was rather hard on the Corporation. He had made a claim on the penny in the pound rate which was about to be levied. That rate seemed to be a very elastic one, but still it would only bring in a certain defined sum, notwithstanding that it was thought the Corporation could launch into all sorts of extra-

gances with it. From that penny in the pound they were expected to maintain and equip public libraries all over Dublin. There were only two public libraries at present, and as each ward would be wanting one for itself, he could not see how that could be done out of £2,600 which the rate produced, and leave anything for technical education. However, he was sure the Corporation would do the best they could under the circumstances, and he thought the society was eminently entitled to a share in the grant for technical education which the Corporation had power to make, and, of course, they were aware that the Corporation had contributed handsomely to the technical schools in Kevin-street. With regard to the second point in Mr. Shelley's speech he could not understand why there should be any delay in a deputation being received by the Public Health Committee, to explain to them the belief of the society that the sanitary inspectors in the pay of the Corporation should have a technical training. He had no doubt whatever that, if proper representations was made to the Public Health Committee, they would not hesitate to receive a deputation, when the views of the society would be fully explained.

The resolution was passed.

Dr. E. J. M'Weeney moved the following resolution:—

That the Registration movement, which has now been fully organised throughout the United Kingdom, is worthy of support, because it is calculated to protect the public against the danger of bad plumbing.

He said this was a subject which came home to every one's door—he was going to say hack-door. Having dealt at length with the evil effects produced in houses by bad plumbing, he proceeded to say that, if it was the duty of the householder to see that his drains were in order, so was it also for the plumber to know his business. The plumber's art was one of those most intimately connected with the health of the community. His friend Sir Charles Cameron, perhaps the greatest living authority upon public health, would, he was sure, agree with him there. The plumber's art was so intimately connected with the public health that its practice should never be entrusted to an inefficient hand, or an un instructed operative. That was why the registration movement, the object of which was to enforce the suitable education of plumbers, was a public necessity, and he might add had successfully triumphed over its enemies.

Sir Charles Cameron, on rising to second the resolution, was warmly applauded. He said he had great pleasure in seconding the resolution, which had been proposed in such felicitous terms by his distinguished friend Professor M'Weeney. It was very fortunate, indeed, that the Association assembled that evening had the Lord Mayor of Dublin presiding over its deliberations. That was a meeting that had something to do with the laws of Health; and the Lord Mayor was a doctor of all laws—and it was a happy circumstance to find him presiding that evening. His lordship had practical acquaintance with sanitary engineering, and it was, therefore, most desirable that the Association should have the approbation, and he might also say the co-operation of gentlemen who, like the Lord Mayor, are competent to form an opinion as to the merits of the Association. His friend Professor M'Weeney had given them an admirable account of the terrible war that was going on in the body of everyone. Professor M'Weeney, too, who was one of the most advanced pathologists and bacteriologists of the day, had pointed out to them the terrible results of bad plumbing. If the law prevented incompetent persons from practising as doctors and dentists, surely the law ought to protect the public from incompetent persons saying that they were competent plumbers, and engaging in work which would injure the public health. That Association was not a mere trades' association, as he understood, in any sense of the term. They might put away trades unionism in this matter. It was good in its way, but

with regard to that organisation he thought that from the moment it was initiated everyone had disclaimed any tendency to a monopoly or trades unionism. What it was started for was, to protect the public against bad work in a matter which did not affect their pockets, for that was a matter of indifference. That was the object of the Association, and that every plumber should be able to produce proof of his competency. One of the principal objects of the Association was to get an Act of Parliament for the Registration of Plumbers, and if that was the case, it was only reasonable that the plumbers should ask for such a bill to be passed. Registration could not be said to be necessary in other handicrafts. There need be no registration for shoemakers, or tailors, or carpenters, for one can tell as to the excellence or the quality of the work turned out by them, but they all knew the work of the plumber was generally hidden away from sight. He remembered some time ago coming in contact with an extraordinary circumstance in the Laboratory of the College of Surgeons. When appointed to be Professor there he found that the sinks refused to act. The matters were not carried away, and the drains had to be examined. It was then found that none of the pipes were in apposition. One was laid into another, leaving a great space. When the pipe came to the laboratory wall it did not pass through it, but it was continued into a drain. There was a trifling obstacle to the pipe of a 2 ft. 6 in. wall. He found afterwards that the man who carried out the works was not a plumber. As Medical Officer of Health for the City of Dublin, and greatly interested in the health of the community, he (Sir Charles Cameron) wished all success to the Registration movement. When the plumbing work of the city was properly carried out, the effect on the health of the community and the abnormally high death-rate would be sensible and immediate. From his own long experience of the city, he could say that until lately there really was not much good plumbing work done at all. The water-closet system was enforced, and it was necessary that there must be good plumbing work. There were 10,000 or 12,000 water-closets, but he regretted that to a great extent those water-closets had been constructed at first in a faulty way. Hurried on as the work was, there were not in the city a sufficient number of competent plumbers to execute the work. The execution of the work had been bad, and the water-closets were constantly going out of order, and good plumbers had now to be called in to undo or re-make the work of the persons who pretended to be plumbers, but were not properly educated. Now, owing to improved methods, the work of plumbing in respect to new buildings, and in existing buildings, had greatly improved, and was greatly in advance of that carried out a few years ago. He had great pleasure in seconding the resolution.

Mr. Simmons (Secretary Trades Council) supported the resolution. He said it afforded him sincere pleasure, as a tradesman, to support a resolution on the matter of registration. He recognised in the word "registration" the fact that it bore with it the hallmark of skill and competence, which he believed every tradesman should, if possible, possess. To secure that skill and competence, it was necessary, he thought, that technical education should be in the forefront. They knew that the plumbers had now for a length of time a technical school of their own, but it was a regrettable thing that the funds were not sufficient to keep it going on in the manner it should. But after all it was pleasant to hear the assurance from the lips of the Lord Mayor, and he thought he might say it was a forecast—the assurance that to the fullest extent the Corporation would give a grant for technical schools for the plumbers. It was admitted that a great deal of evil arose from bad plumbing, and it came to his knowledge recently in the case of a friend of his own, who had a serious illness contracted by bad work that was done in his house. The house had been visited by the health in-

spector of the Corporation, but if that man had had educational qualities as a plumber, he would have noticed the defective work of the plumber. He hoped that such a bill as was contemplated would be passed, to make it compulsory that all plumbers should be registered, and the health inspectors should be plumbers. The House of Commons had passed a resolution this year in favour of the employment in Government contracts of none but skilled men.

The resolution was passed unanimously.

Mr. W. Kaye Parry, M.A., then proposed:—

That the meeting is of opinion that the Plumbers' Registration Bill, introduced by the Worshipful Company of Plumbers during the last session of the Imperial Parliament, should be placed upon the statute-book at the earliest opportunity; and the Irish members of Parliament are hereby requested to give the bill their active support; and that copies of this resolution be forwarded to the Right Hon. the Chief Secretary for Ireland, and to the members for the City and County of Dublin.

He said he took that opportunity of thanking the Lord Mayor for presiding. His attendance, under family affliction, showed the keen interest he took in their society. They were glad to see the Lord Mayor also present in his capacity as a large employer of labour, for they looked to the sympathy and support of such men to largely assist them in the work they had set before the society. Above all, however, they were glad to see him there in his Mayoral capacity. Yesterday at the London Guildhall, Alderman Stuart Knill was admitted to the chief citizenship, and much as every right-minded man rejoiced at that as a vindication of the great principle of religious equality and freedom, they also rejoiced at it, from the fact that Alderman Knill was a Past Master of the Worshipful Company of Plumbers. With Alderman Stuart Knill at the head of affairs in London, and Alderman Meade at the head of affairs in Dublin, the registration movement was bound to make rapid progress. He pointed out that there was nothing like compulsion or boycotting suggested in the Registration Bill. Its real primary object was to prevent anyone who was not qualified, from attempting to style himself in any way as a Registered Plumber, and to make such misrepresentation an absolutely penal offence. Beyond that, the Bill did not at present go. It was very prudent that it should be framed in that way, because otherwise it might do a very great injustice to a great many respectable men who were earning their livelihood in connection with plumbing, although they might not be highly qualified. On the other hand, he thought the time would come when registration would become so general that it would be practically impossible for a man to earn his livelihood as a plumber unless he submitted himself to registration. The organisation was now three years in existence, and it was making steady progress. As an educational body, the society particularly deserved public sympathy; and, considering the advantage of having the society at work, he thought it was entitled to the small grant from the Corporation, which would enable them to carry on the work.

Mr. William Walsh (Sec. Dublin Operative Plumbers) seconded the resolution, and said he was sure the trade would give their support to the bill, which was one which would greatly benefit them.

The Lord Mayor, in putting the resolution, said it gave him great pleasure, along with his fellows of the Corporation, to forward a petition to Parliament in support of the Bill last session. They regretted it was late, but he could speak on behalf of the entire Corporation, and say they were prepared to send a similar petition to the coming session of Parliament in support of the Bill.

A number of certificates of registration having been distributed,

Mr. Isaac Molloy, Chairman Kingstown Commissioners, was moved to the second chair.

On the motion of Mr. Curtis, seconded by

Mr. J. C. Wilmot, a vote of thanks was passed to the Lord Mayor for presiding.

His Lordship, in reply, said it had given him great pleasure to preside, because he thought their society was one which deserved well of the public, and that he, in the representative position which he occupied at present as Chief Magistrate of Dublin, ought rather to thank them for giving him the opportunity of presiding than to accept thanks from them for having presided. He must say as an employer of labour, who had to a limited extent to deal with the matters which this society looked after, that no one had an opportunity of feeling the necessity of the proper education of every man practising the trade of plumbing than he had. He thanked them very much for the kind way in which they had received the mention of his name. He felt that several of the remarks made by the speakers were undeserved by him, but at the same time he claimed, as Chief Magistrate of Dublin, to have endeavoured to do his duty to the citizens, and he was perfectly certain that anyone elected by the Corporation to succeed him would do the same.

The meeting then concluded.

THE PRESIDENT'S ADDRESS. THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

WHEN the ancient Emir declared "Oh that mine adversary had written a hook," he quaintly, though perhaps unconsciously, betrayed the relish with which he would ruthlessly expose the weak points displayed in the recorded opinions of his enemy. In the belief that I have no adversary within these walls, nor, I hope beyond them, I am happily released from the dread of such hostile criticism, and confidently indulge the hope that the views I have recorded, and which it is now my privilege to submit on the opening of another session, may be received with friendly, and even lenient, criticism.

We live in an age of progress. Nations and individuals are alike engrossed in the keen contest. In politics, in art, in literature, in science, in social and political economy, this is equally true. It matters not greatly whether customs are good, or men are able and useful,—if not conformed to the spirit of the times, they are alike set aside or superseded in favour of modern progressivism. Real progress is the characteristic of a living age. To attain to whatever elevates the aspirations, ennobles the ambition, or promotes the civilisation of man is commendable. But to inaugurate constitutional changes from motives other than the welfare of the community, to yearn for novelty in art, to pander to sensationalism in literature, to preach doctrines which are opposed to the true principles of political economy, these are the outcome of a foolish craze for progress which is a remarkable characteristic of our day. Those who cling with affection to customs which, having been approved by the experience of past generations, they refuse to abandon till convinced that change is necessary,—not for the sake of change,—but for the well-being of society, are apt to find themselves regarded as venerable relics of antiquity, eminently respectable, it may be, but tolerated only because they are so, and destined at no distant date to be swept away in the ever-increasing flood of so-called progress. To attempt to define the extent to which the changes and reforms of modern times may have contributed to true progress, would involve an inquiry foreign to my present purpose; it may, however, be asserted with tolerable safety that such changes have not always deserved the name, and that, in not a few instances, they have retarded, instead of forwarding, the advancement of civilisation. With no less assurance may the forecast he made that some at least of the changes with which society is now threatened will fail in attaining the results professedly desired by their advocates, and will end in disappointment, if not disaster. If, therefore, we attempt to review

some aspects of our profession, or of interests cognate to it, with the view of defining our position in relation to the past, or of forecasting our probable position in the future, it is of the first importance to be satisfied as to what constitutes progress, and to be on our guard lest, as too frequently happens, we confound it with mere change, or the restless desire for disturbing existing institutions.

Draughtsmanship.—At the outset of such a review we are struck with a remarkable development of recent years,—the perfection which architectural draughtsmanship has attained. It is not possible to regard the drawings submitted yearly for the prizes offered by the Institute and the Royal Academy, or prepared in profusion for competitions, with anything short of admiration, combining as they do technical accuracy with artistic feeling,—the essential characteristics of good draughtsmanship. To set aside by side the drawings of some generations since and those of to-day, is to exhibit not so much comparison as contrast; for in many drawings of old masters in architecture, knowledge of perspective and firmness of touch are alike conspicuous by their absence. The perfection of modern draughtsmanship is, no doubt, to be traced, to some extent at all events, to the spirit of emulation inspired by competitions for students' prizes, and to the prevailing practice of inviting competitive designs for public buildings, both of which naturally enlist all the resources of the draughtsman's skill. That this advance in architectural draughtsmanship constitutes, so far as it goes, real progress, may be conceded; indeed the younger members of the profession may be honestly congratulated on the artistic beauty and perfection of their handiwork. If, therefore, I venture to point out a temptation to which their skill exposes them, I am actuated by no ungracious spirit of desiring to detract from the legitimate merit of their work. No one can doubt the importance of good draughtsmanship to an architect, for it enables him to express readily and freely the ideas which are to constitute his design. The pencil is to the architect what the pen is to the author: the mode of expressing his ideas; no more. Essential as this is, obviously the mode of representation is of less consequence than the thing represented, and it is because I have observed a tendency to drown architecture in mere draughtsmanship that I am induced to remind you that, although every architect ought to draw, and draw with facility, it is yet possible to be a good architect without being a brilliant draughtsman; and, conversely, that it is possible to be an expert draughtsman, yet not to have any claim to be an architect. Architecture is the material embodiment of conceptions of the mind; drawing is the medium by which these can be, at the best, but inadequately expressed. It may be excusable to smile at the draughtsmanship of old masters whose names live in history as great architects, but it may not be amiss for the brilliant draughtsmen of to-day, while justly proud of their attainments, to ponder on their prospects of acquiring equal fame; for while it is good to know how to draw with artistic excellence, it is better to know how to design with purity and truth; the one may be, like a beautiful face devoid of character, the graceful expression of vacuity; the other, like features inspired by character, must be the embodiment of spirit and of life. In architectural competitions the importance of appointing professional assessors is often enforced on the ground that it is impossible for promoters to arrive at a just decision without the assistance of an expert; this is true; but my experience has taught me that there is another side to this question, and that not the least responsible part of an assessor's task is to protect promoters from being imposed on by the tricks of draughtsman whose ability is more apparent than their morality. Such trickery may mislead the uninitiated; it is transparent to the expert; and at the hands of a just assessor it will fail to meet with the reward it deserves. In a word, so long as

draughtsmanship is the truthful delineation of effects which it is desired to produce, it cannot be too good; when, however, truth is disregarded, and when the temptation is yielded to of producing delusive though attractive effects which the draughtsman knows could not exist, then no amount of technical or artistic cleverness can make it worthy of the art it professes to delineate, or bring it within the sphere of true progress.

Architects' Education.—Drawing being part of an architect's training, it is natural, in passing, to glance, however cursorily, at the more general question of education. Recent years have witnessed vast strides in this direction. The question is not now so much whether people will be educated, as whether they do not incur the risk of over-education. Food is necessary, but excess of food will not assimilate, and is injurious. The progressivism of School Boards involves this danger, and has a tendency to engender discontent by lifting some above the sphere for which they are suited by nature, and in which they would, unless thus surfeited, become useful members of the community. State Education should be elementary. When it embraces higher branches, the advantage, to say the least, is questionable. Modern progressivism, however, has not reached the stage of proposing that free education should be extended to students in architecture, and the risk of over-education, therefore, is one to which we are not as yet exposed; but, apart from such a utopian prospect, which, for all we know, may be in store for our posterity, the educational facilities which students now enjoy are remarkable when compared with those of a generation or two since. Such agencies in the shape of colleges, schools, institutes, academies, and classes are too numerous and too well-known to justify recapitulation; I must, however, notice, in passing, the latest developments exhibited in the remarkable curriculums of University College, King's College, and the Architectural Association. The new departure of the latter in inaugurating a more complete and systematic curriculum of professional education than it had previously attempted was regarded by not few with some amount of apprehension. A perusal, however, of the annual volume,—the "Brown Book,"—recently published, in which is given the results of the first year's working, must tend to dissipate such fears. The report, which I commend for your perusal, bears the impress of a simple statement of facts, without any apparent effort to make things look better than they really are. A glance at the balance-sheet,—the crucial test of success or failure,—shows that the fees paid by students amounted to the large sum of 645*l.*, which more than sufficed to defray the fees paid to lecturers, amounting to 601*l.*, while the result of the whole year's working, including increased rent and charges, shows the comparatively small deficit of 128*l.* The donations paid to the general fund amounted to 991*l.*, and, after defraying the cost of alteration of premises, furniture, and the above deficit, there remained a balance at the credit of this fund amounting to 480*l.*, to which has to be added donations promised but not yet paid amounting to 359*l.* Without entering into further detail, which the time at my disposal forbids, it will be seen that the progress attained during the first year,—necessarily the most trying and critical,—has been real, and such as to encourage the promoters in the continued and energetic prosecution of the scheme. It is obvious that an undertaking so wide in its organisation, and requiring so numerous a group of workers, could only be attempted in the Metropolis; but we may, without indulging in prospects too sanguine, anticipate the advent of a systematic educational organisation throughout the country. The scheme now under consideration of architectural provinces, each with its own centre, and embracing an area with defined boundaries, would certainly tend, by stimulating local organisations, to facilitate the attainment of such a result. Existing educational agencies

might thus be fostered, and the advantages they offer be brought more prominently before students, and new agencies might be created where none now exist, so that students in each architectural province would not be without those educational facilities which are now enjoyed in the Metropolis. To time must be left the development of such a scheme, for it is apparent that, like all other attainments in real progress, they cannot be forced into existence, but must be slow and gradual in their growth, the outcome of a carefully thought-out organisation.

To what extent architectural education is likely to be affected by the proposed establishment of a Gresham or Teaching University for London cannot be predicated. A Royal Commission is now engaged in taking evidence, and considering the whole question. That such a university must embrace Art, as well as Science and Literature, may be taken for granted, and it would seem reasonable that a definite place should be claimed for Architecture. The scope of the University is thus defined by Professor Huxley in a letter from him which appeared in *The Times* on July last:

"The University occupies a position altogether independent of general or of technical education. It is neither an institution for testing the work of schoolmasters, nor a machinery for ascertaining the fitness of young men to be curates, lawyers, or doctors. It is an institution to which a man who desires to devote himself to any branch of science or art may go in full confidence that he will find there those who can teach him (or put him in the way of learning) what is already known in regard to that discipline, and still more train him in the methods by which he may himself advance that kind of knowledge. Under art are to be comprehended literature, the pictorial and plastic arts, architecture, and music; under science, logic, philology, mathematics, the physical science, and archaeology and history. The question of the connexion of the university (in this sense) with the high schools and the technical schools of theology, law, medicine, and so forth, comprehended under the present 'faculties,' and the working in of the present chaotic raw material of educational institutions in London into an organised whole, are matters of detail which will settle themselves as soon as people are agreed upon first principles."

The Examinations.—Teaching naturally suggests Examination. Having devoted a considerable portion of my address last year to this subject, it would be unpardonable were I now to detain you at any length by recurring to it in detail. I must, however, be permitted to remark that, so far as I know, no advocate of Examination ever thought or expected that it would or could create a great artist or a great architect. It is not fair criticism to condemn an educational test because it does not effect a result which was never intended, and which is impossible. As consistently might University tests be objected to because they do not in all cases produce great divines. No one thinks, however, of disputing that they act as stimulants to the acquirement of knowledge upon which success in life so largely depends. I feel justified in asserting that the Associates' Examination has hitherto successfully withstood the somewhat fierce, and I feel bound to add the not always just or fair, criticism to which it has been exposed, for as the practical issue of all that has been said and written, the rising generation of architectural students have come forward in increasing numbers, and the cry is, "Still they come!" Does not this imply that they appreciate the active labours of the Institute in endeavouring to raise the standard of knowledge and promote the efficiency of architects, rather than mere academical and inoperative disquisitions? That Examination may exhibit defects of organisation, or that it may be capable of improvement in certain particulars, is very possible; but that, after all, is no more than may naturally be looked for in a comparatively new institution, subject to such changes as experience may from time to time dictate. Those who may desire to offer suggestions with a view of rendering it more efficient may be assured that any reasonable proposals

will always receive careful and impartial consideration from the Board of Examiners, whose generous and unremunerated labours we all appreciate so highly. I desire to record the conviction that the Examination continues to prove,—what I never doubted it would prove,—an encouragement to study and a stimulus to the increase of knowledge, and because it has proved this, it has been, in my opinion, a step in the direction of real progress. I embrace this opportunity to intimate to the architects of the United Kingdom that we invite their co-operation in the endeavour to obtain, for all those about to enter the architectural profession, a systematic course of education tested by examination, and to remind them that the Examination will be conducted in its present form until the end of 1893 only, and that thereafter the progressive Examinations, of which detailed particulars are published in "The Kalendar," will be in full operation.

(To be continued.)

BRIDGE OVER THE NORE AT INISTIAGE.

WE give with present issue a view of a stone bridge of ten arches of equal span, erected over the River Nore, at the town of Inistiage, County Kilkenny, from a design by Mr. George Smith. Our view has been copied from a plate published in a "Survey" of that county made in the years 1800 and 1801, by William Tighe, Esq., of Woodstock. The author of the Report tells his readers that "it has been printed and circulated for the purpose merely of procuring further information respecting the state and husbandry of this district, and of enabling every one interested in the welfare of this country, to examine it fully, and contribute to its improvement."

"Inistiage was (writes Lewis) at an early period distinguished for its religious establishments. An abbey is said to have been founded here about the year 800; but that to which the town was more especially indebted for its origin and early importance, was an Augustinian monastery founded in 1210 by Thomas, son of Anthony, Seneschal of Leinster, and dedicated to the Blessed Virgin and St. Columb. Alured, the first prior, made the town which had arisen up around it a free borough; and Milo Fitzgerald, the last abbot, who was afterwards Bishop of Ossory, rebuilt the tower of the church, and erected the cloister; the priory continued to flourish till the dissolution, and with all its revenues was granted by Queen Elizabeth to Edmund Butler, Earl of Ormonde."

ENGINEERING WORKS OF THE FUTURE.*

In his opening remarks the President said he proposed to depart from established precedent, and to notice such works of importance as were likely in the not distant future to be undertaken by British engineers both at home and abroad, and also the principal fields of future employment.

One of the most prominent schemes was that projected to place England in unbroken railway communication with the continent by a tunnel under the English Channel. The route proposed by the late Sir John Hawkshaw, Mr. J. C. Hawkshaw and himself, in association with the late Sir James Brunlees and Mr. McKerrow, would leave the English coast about four miles N.E. of Dover, and proceed in a straight line to the French coast near Sangatte, about six miles

S.W. of Calais. The tunnel would penetrate the lower chalk throughout, and there would be no "faults" materially to affect the continuity of the strata. The total length of the railway would be about thirty-five miles, of which about twenty-one miles would be in a submarine tunnel, the remainder being the approaches and connections on either side. The Channel Tunnel Company was exploiting a tunnel on a different line, the strata to be penetrated being, however, generally the same. The first question to be settled, however, was the political one.

Another project, which had already received considerable attention, was a tunnel to unite the English and Scotch railways with those of Ireland. Mr. James Barton, and Messrs. Hawkshaw and Hayter, laid before an influential meeting, held at Belfast in October, 1890, a project for a tunnel passing round the northern end of "Beaufort's Dyke," a ravine three miles wide and 900 ft. deep, in the sea-bed nearly parallel to the coast of Scotland, where the maximum depth of water was 500 ft. The tunnel would be at such a depth as at no part to be nearer the bed of the sea than 150 ft.

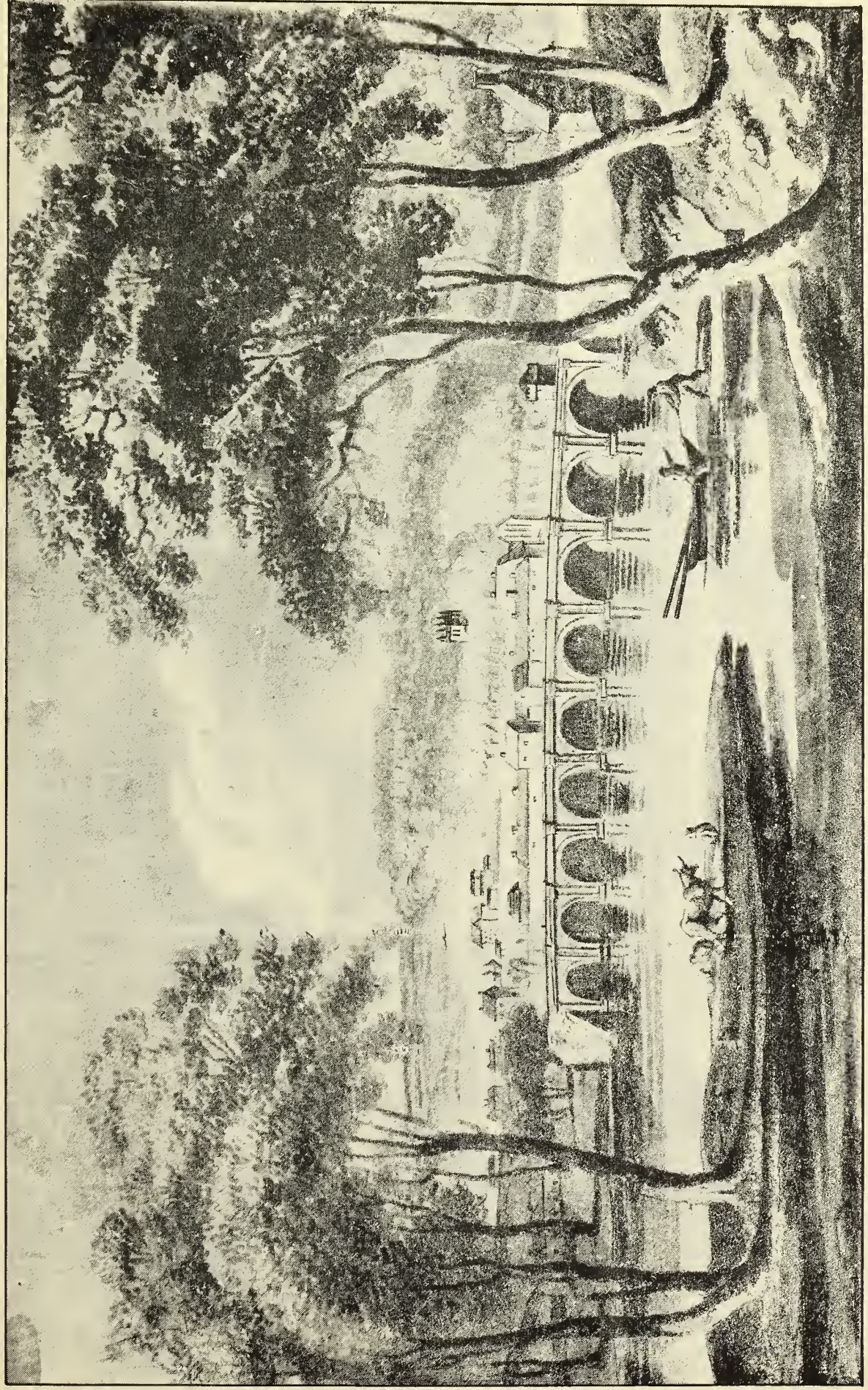
The results of the investigations as to the tunnels between England and France, and Scotland and Ireland, warranted the following conclusions:—1. A reasonable probability that the tunnels could be made. 2. The risk would be limited to the possibility of sea-water finding its way into the workings in quantity too great to be overcome. 3. The question of risk would probably be solved by sinking the land shafts, which would form part of the permanent work, on each coast, and by driving the permanent driftways. 4. The loss, if any, would thus be measured by and limited to the cost of the preliminary shafts and driftways. 5. There seemed to be no reason why these tunnels should cost more than £10,000,000 each, or take more than ten years to complete. There were three other submarine tunnels which it was not improbable would be constructed before long: one to connect the railways north and south of the Humber, and to obtain for the southern lines a terminus at Hull; a second, about one three-quarter mile in length, to unite the railways on either side of the Thames, at some point east of Purfleet; and a third, to connect the railways in the Isle of Wight with the London and South-Western, and so with all the mainland lines.

Turning to inland navigation, about one-third of the canals of the country belonged to the railway companies, who, in their own interests, had in many cases blocked through communication and connections in order to stop competition. There were indications, however, that canals would soon be placed on a more satisfactory footing. For cost of construction and maintenance, and economy of transport, canals compared most favourably with railways, and the unsatisfactory position of our canals had enabled France, Belgium, and Holland to carry coal and heavy goods so cheaply as to handicap us in foreign competition. Since the passing of the Railway and Canal Traffic Act of 1888, many projects had been mooted, amongst which he might mention a canal from Birmingham to the Humber; one from Birmingham to Liverpool by means of the River Weaver and the Manchester Ship Canal; and a third from Birmingham to the Bristol Channel, *via* the Birmingham and Worcester Canal, the Severn and the canal from Gloucester to Sharpness; works were already in progress to effect the latter object. There had also been proposals to widen and deepen the canals between Birmingham and London, to connect the Tyne and Solway by a canal, and the Forth and Clyde by a direct ship canal, and to construct a ship canal between the Bristol and English Channels, *via* Bridgewater and Lyme Regis.

A great deal remained to be done before our harbour accommodation would be placed on a satisfactory footing. Harbours of refuge, such as those at Holyhead, Portland, Dover and Alderney, were chiefly useful to shelter small sailing ships engaged in the

* Abstract of Inaugural Address by the President, Mr. Harrison Hayter, at opening meeting of seventy-fifth session of Institution of Civil Engineers (London), on the 8th inst.

THE IRISH BUILDER, NOV. 15, 1892.



BRIDGE OVER THE NORE, AT INISTIAGO.

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coasting trade, detained by contrary winds. Steamers were now largely replacing the small coasters, and, being independent of wind as a motive power, did not seek shelter unless driven by undue stress of weather. The number of vessels entering Holyhead for refuge had declined from a yearly average of 3,000 during the decade ending 1870, to 2,500 from 1870 to 1880, and to 2,000 from 1880 to 1890. The true solution of the question now, apart from that of national harbours, was to distribute harbours as much as possible along the coast, and to provide such a depth of water that the usual coasting vessels might enter at all times. Government might encourage the construction and improvement of smaller harbours by loans at the lowest rate of interest, stipulating that they should be maintained at a minimum prescribed depth. Vessels entering for shelter, without breaking bulk, should be allowed to do so at all times on payment of a small toll only, considerably less than that for vessels using the harbour for commercial purposes. In the construction of harbours of this kind, the French had been in advance of us, especially along the coast east of Marseilles. The Report of the Royal Commission of 1886 on Irish Public Works should lead to the construction of harbours in Ireland, which would be of untold benefit to that country.

Dock enterprise had recently received a check from which it had not yet recovered. Disasters had in many cases arisen from competition, from unprofitable extensions, and sometimes from unwise administration. What effect the absorption of docks by railway companies would have yet remained to be seen, but there was little doubt that if, as a general rule, docks were placed under properly-constituted trusts, there would be hope for those undertakings which had suffered and were still suffering so severely, and a prospect of dock extension in this country on judicious lines.

With reference to the question of rivers in connection with land drainage, and the prevention or mitigation of floods, no complete schemes of improvement could be undertaken until the valuable suggestions of the Duke of Richmond's Committee in 1877 were incorporated in an act of Parliament. One of the most important of its recommendations was that, in dealing with each river, each catchment-area should be placed under a single body of conservators, who should be responsible for maintaining the river from its source to its outfall in an efficient state. An act of Parliament, framed on sound principles, would be a powerful incentive to the improvement for drainage purposes of our long-neglected rivers.

Turning to future engineering enterprises abroad, it was necessary that immediate action should be taken if a Euphrates Valley route to India were to be established under British control. It was quite evident, however, now that if the success of the undertaking were dependent upon any subsidy or guarantee from Turkey, the case would be hopeless. All that Turkey could do would be to grant a concession, which must be one that would concede privileges and not unduly fetter the hands of the promoters. There was a danger that the work, which should be undertaken by England as a political necessity, might be accomplished by others. In 1888 a concession had been granted by the Ottoman Government for certain railways in Asia Minor. English capitalists took the matter up, and an English firm entered into a provisional contract, but a German financial element had to be introduced, with the result that the German capitalists supplanted the British, and that the lines were now in their hands. The lines to be constructed would afford a communication from England through Europe to India, the only missing links being the English Channel and the Bosphorus. If a railway were to be made down the Euphrates Valley, or down the Tigris Valley from Constantinople, it would have to enter the valley by traversing the same country as the German line, and it would also be blocked at the other end if the German line were ex-

tended in the direction of Kurrachee. The hope, therefore, was almost gone, that we, as a nation at any rate, could obtain direct railway communication, without encountering in Asia Minor and eastward lines belonging to a strong European power. It was, however, a matter of congratulation that the way was, for the present, still open, if the Euphrates Valley line were regarded as a link in the communication from a Mediterranean port on the Syrian coast to the Persian Gulf, which the late Sir W. P. Andrew and others had always considered as of primary importance. The Committee of the House of Commons of 1872 was disposed to prefer Alexandretta as the Mediterranean port, as it possessed a fine natural harbour and was opposite Cyprus. As to the port on the Persian Gulf, it would probably be better, should the line be ultimately carried to Kurrachee, to keep on the left bank of the Euphrates and to select Core Abdullah or Bushire. By this route the saving from England to Bombay would be upwards of 700 miles, and to Kurrachee upwards of 1,000 miles. The length of the Euphrates Valley line from the Mediterranean to the Persian Gulf would be about 850 miles, and the cost would average about £10,000 per mile. Sir W. P. Andrew estimated that the probable net traffic revenue would pay a dividend of 5 per cent. per annum. With reference to the necessity of the line from a strategical point of view, Lord Wolseley had said that the Suez Canal might be quickly and easily destroyed, and that it would be ridiculous for us as a nation to depend on it as a line of communication with our Eastern possessions in time of war. Again, if England succeeded in constructing a railway down the Euphrates valley, it would become interesting to ascertain to what extent, in order further to develop the country, a water, or partly water and partly railway, communication could be established between the Mediterranean, opposite Cyprus, and the Persian Gulf, down the Euphrates or Tigris Valley, or down both. There was no doubt that the country would be benefited largely by the improvement of the navigation of both the Euphrates and the Tigris, and that a ship canal to accommodate the largest vessels could be constructed, at any rate, from the Persian Gulf to Babylon.

Owing to political and other circumstances, engineers who had been engaged in Central and South America had suffered greatly. The Argentine Republic, for instance, needed railways, harbours, docks and irrigation works to develop it, and if natural conditions were re-established, many years must elapse before the work of the engineer could be accomplished. The whole frontage of Buenos Ayres, a length of 3½ miles, was being covered with docks, and a channel 14 miles long, together with a branch channel 6 miles long, was being dredged to bring ships from the present anchorage into the docks. By this work it was estimated that the nation would benefit to the extent of about £750,000 a-year. It was already proposed to unite all the railways having termini at Buenos Ayres in a central station on the land reclaimed from the River Plate by the dock and other resultant works.

Turning to Africa, it was expected that the services of the British engineer would be needed for some time to come. Upwards of 3,000,000 square-miles (including Egypt), or about two-fifths of that vast continent, was now under British protection. The greater portion of this territory was without the sphere of civilization, and could only be brought into it by railways, roads, harbours, river improvements and pioneer works, by which alone could slavery be annihilated. The French had already constructed lines in their colony of Algeria, and proposed to extend the system southward to Lake Tchad, on the border of British territory, while the Germans were engaged upon a railway, some 200 miles long, from the sea coast to Mount Kilimanjaro. Such rivalry ought to stimulate the spirit of our country, and the Directors of the Imperial British East Africa Company,

and of the British South Africa Company, were alive to the necessity of action, and, in spite of checks, had been, and were doing a great deal of work which would facilitate future engineering and other undertakings. The former had acquired potential rights over 750,000 square-miles of territory, had already established customs along the sea frontage, and was constructing roads, telegraphs, and various other preliminary works, but had failed in its endeavour to construct a railway. So vital was this to the preservation of the integrity of the territory that Parliament, in March last, had voted £20,000 for a survey from Mombasa to Victoria Nyanza. The distance was about 500 miles, and the cost of construction might be £3,000,000; if the Government guaranteed, this, the annual interest would amount to say, £90,000, but, as the line would penetrate important slave routes, it was believed that the reduction in the annual "slave vote" would, to some extent, cover the guarantee, apart from any revenue the railway might earn. The British South Africa Company had effected the peaceful occupation of Mashonaland, from which it had been arranged to construct a line to the sea coast through Portuguese territory. Efforts were also at present being made to construct railways in the Transvaal and the Orange Free States with British capital—lines which, it was said would be exceptionally remunerative. Mr. Cope Whitehouse had proposed to convert the Raian Basin into a storage reservoir for the improvement of the irrigation of the Egyptian delta, and the resources of Egypt were further capable of important development by the improvement of the first cataract of the Nile, a work not unlikely to be soon accomplished. These undertakings could only be realised while the country was under British control; were that removed or weakened, the material development of Egypt would be arrested, a state of things which must react prejudicially on other African territories, and in a manner on England also.

In conclusion, the President said that time had not permitted him to touch upon works in India or in the Colonies, or upon the future of electrical, mechanical, gas, and mining engineering, or upon that of ship-building. The profession was a vast one, and the Institution embraced every branch of it; it was full of vitality, and, far from being on the verge of finality, would probably develop largely within the next fifty years. A satisfactory feature of the age was the necessity more and more existing for an Engineer to take up one branch only of the profession. Engineers were now more highly educated than formerly, and must be if they were to obtain success in their calling, and to compete with foreign Engineers.

NOTES OF WORKS.

GREEN-STREET COURTHOUSE.—The Corporation have agreed to an expenditure of £2,750, for the purpose of improving the City Courthouse, Green-street, according to plans by the City Engineer.

At Shankhill, Co. Dublin, "Burton" Memorial Schools and Teachers' Residence have been erected from plans by Messrs. Sir T. N. Deane and Son. Mr. Henry Pemberton, of Killiney and Ballybrack, was the contractor. The cost was £1,000.

A fine building has just been completed at George's-street, Kingstown, intended for a Men's Christian Institute. The greater part of the expenditure (about £5,000) has been borne by William M'Comas, Esq., J.P. Mr. W. Kaye Parry, C.E., of Dame-street, was the architect, and the contract was satisfactorily carried out by Mr. Henry Pemberton, of Ballybrack, Co. Dublin. The contract included all sanitary arrangements, heating, plumbing, and gasfitting—the two latter items were carried out (for the contractor) by Mr. T. W. Little, of Dublin and Kingstown.

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.
(Continued from page 232.)

The Parochial Registers.

BAPTISMS.

January, 1727—July 1728.

- Jan. 2. Catherine, dau. to Benjamin and Jane Roudford.
5. John, s. to John and Mary Rook.
7. Christian, dau. to John and Catherine Murry.
7. John, s. to Thos. and Jane Reily.
9. Stephen, s. to John and Margaret M'Loughlin.
9. Andrew s. to Michael and Elinor Purfield, Pill-lane.
10. Timothy, s. to James and Ann Dunn, Boot-lane.
11. Margaret, dau. to Anthony and Mary Hayes.
11. Bridget, dau. to Laurence and Margaret Browne, Fisher's-lane.
13. John and Elinor, s. and dau. to Wm. and Ann Robinson, Frapper's-lane.
15. Mathew, s. to Edwd. and Margaret Murphy, Ballybough-lane.
15. Daniel, s. to John and Mary Mitchell, ye upper end of Strand-street.
27. Francis, s. to John and Elinor Keeve, Church-street.
28. Ann, dau. to Henry and Mary Kempin, Boot-lane.
29. Jane, dau. to Michael and Jane Doyle, in Mass-lane.
Feb. 1. John, s. to Mary and ——— Martin.
4. Mary, dau. to Thomas and Ann Newman, Strand-street.
5. Thomas, s. to Christopher and Mary Kean, Church-street.
10. Henry, s. to Henry and Jane M'Henry, Cherry-lane.
12. Katherin, dau. to Mr. Henry Dillon of Belgard, was christened in Henry-street; *g.f.*, Mr. John Doyle, *g.m.*, ye widow Dillon of Belgard.
13. Richard, s. to Joseph and Jane Wade, Drumcondra-lane.
13. Margaret, dau. to Patrick and Mary Russell, Drumcondra-lane.
13. Katherin, dau. to Mr. Luke Doyle, was christened in Stafford-street; *g.f.* Major Pallas, *g.m.*, Mrs. Lee, ye grandmother. [This, and the preceding entry, is in the handwriting of Dr. John Linegar, and in a more modern and different hand is the following: "by ye new Archbishop, John Linegar."]
17. Thomas, s. to Daniell and Jane Sexton, in Petticote-lane.
17. Patrick, s. to John Plunket, in Church-street.
19. Ann, dau. to Morrice and Catherine Bolan.
20. Alice, dau. to Chrstr. and Catherine Welsh, Church-street.
20. Jane, dau. to Charles and Ann Nary, New-market.
23. James, s. to James and Frances Archer.
23. Thomas, s. to James and Ann Savage, Church-street.
23. Mary, dau. to James and Mary Lynch, Church-street.
23. Valentine, s. to Laurence and Elizabeth Browne, in Caple-street; *g.f.*, John Farrell, *g.m.*, Catherine Bermingham.
23. Elizabeth, dau. to Wm. and Elizabeth Geanor, Charles-street.
March 5. Jane, dau. to Thomas and Catherine Welsh, Long Strand, [now Amiens-street].
5. Michael, s. to Cornelius and Catherine Ryan, Arran-street.
5. Catherine, dau. to Richard and Jane Dempsey, Boot-lane.
5. Thomas, s. to Patrick and Elinor Sherlock, Church-street.
7. Elizabeth, dau. to Peter and Elizabeth Standly.
13. Thomas, s. to Patrick and Jane Browne, Church-street.
13. James, s. to John and Elinor Geoghegan, Lify-street.
14. Alice, dau. to Patk. and Elizth. Connor, New Market.
27. Richard, s. to Bartle and Honora Reed, Cherry-lane.
28. John, s. to James and Elinor Drake, Propper-lane.
28. Joseph, s. to James and Mary Lynch, Abbey-street.
April 2. Elinor, dau. to Edward and Elizabeth Fagan, Stirrup-lane.
3. Jane, dau. to Thomas and Catherine Doyle, Batchelour's Walk.

3. Mary, dau. to John and Elizabeth Bermingham, Loftice-lane.
4. Richard, s. to Edmond and Mary Browne, Drumcondra-lane.
6. Catherine, dau. to Patrick and Bridget Egan, in Liffy-street.
9. Alice, dau. to George and Margrett Sherlock, Church-street.
9. Thomas, s. to James and Mary Geoghegan, New Market.
10. Mich., s. to Michael and Catherin Gorman.
14. Susanna, dau. to Mr. Maurice, linen draper, in Pill-lane; *g.f.*, Dominick Kelly, *g.m.*, Margret Byrn, of ye same lane. [In a modern and different hand, is "by ye Archbishop, John Linegar, D.B.D., i.e., Dionisius Byrne, Dean."]
15. Mary, dau. to John and Sarah Brady, fims Garden.
16. Elizabeth, dau. to Thos. and Mary Doole.
17. Christopher, s. to Bernard and Amy Tye, New Market.
17. Margaret, dau. to Patrick and Catherine Ryder, New Market.
20. Patrick, s. to Richard and Margret Lee, in Caple-street.
24. John, s. to Patrick and Sarah Coyle, on Ormond's Key.
24. Richard, s. to Terrence and Mary Carroll, Loftice-lane.
24. Michael, s. to John and Mary Walsh, in Cow-lane.
24. Elinor, dau. to Patrick and Mary Gilshenan, in Mass-lane.
24. Jane, dau. to Thos. and Elizabeth Hanlon, in the Chapel; *g.f.*, Patrick Rogers, *g.m.*, Mrs. Mary Fitzpatrick.
24. Margaret, dau. to James and Elinor Collins, Pill-lane.
25. Catherine, dau. to Patrick and Mary McVoy, in Church-street.
26. Patrick, s. to James and Margaret Cashell, in Charles-street.
27. Margaret, dau. to Henry and Mary Davis, in ye Market.
29. Richard, s. to Thomas and Mary Eustace, Mountrath street; *g.f.*, Richard Harvey, *g.m.*, Elinor Lebetter [? Ledbetter].
30. Mark, s. to Edward and Margaret Haly, Drumcondra-lane.
May 1. Thomas, s. to Thomas and Jane Cullen, Inns Garden.
2. James, s. to Thomas and Ann Toolan, beyond ye Broad Stone.
6. Margaret, dau. to James and Mary Smith, Swift's-roo.
6. Ann, dau. to Peter and Margaret Bryan, Tucker's-roo.
8. Mary, dau. to James and Elizabeth Cassidy.
8. Margaret, dau. to James and Mary Smith, Swift's-roo.
14. Dominick, s. to Redmond and Christian Fitzsimons, St. Mary's-lane; *g.f.*, James Walsh; *g.m.*, Elenor Fitzsimmons.
16. Jane, dau. to Patrick and Jane Koney, at ye corner of Boot-lane.
June 4. Elenor, dau. to James and Mary Dillon, Glasmanoeeg.
4. John, s. to Charles and Bridget Conran, Mountrath-street.
4. Mary, dau. to Timothy and Catherine Ward, New Market.
4. Patrick, s. to Richard and Mary Calaghan, Pill-lane.
5. James, s. to Luke and Ester Bryan, New Market.
9. Michael and James, sons to Michael and Jane Tumings, Pill-lane.
9. Alice, dau. to William and Ann M'Nally, Pill lane.
9. John, s. to Richard and Ester Good, Inns.
12. Elizabeth, dau. to Charles and Christain Reily; *g.f.*, Sir Dennis Egan, *g.m.*, Margaret Ivory.
12. Jane, dau. to John and Elinor Boodin, Wheneray's-lane [now Whennery's-alley, a narrow lane leading from Arran-street, East, to Little Strand-street].
12. Jane, dau. to John and Ann Owens, Abbey-street.
13. Mary Ann, dau. to Patrick and Ann Cannon, Charles-street.
14. James, s. to Charles and Mary Kelly, Cole's-lane.
16. John, s. to James and Elizabeth Moran, Caple-street.
18. Joseph, s. to James and Mary Flannigan, Strand.
25. Elizabeth, dau. to James and Christian Keegan, Drumcondra-lane.
25. John, s. to William and Elinor Dempsey, Ormond Key.
26. Mary, dau. to John and Elizabeth Doyle, Cow-lane.

26. John, s. to John and Mary Robinson, Cross-lane.
27. Thomas, s. to William and Ann Dunbarr, Church-street.
28. Elizabeth, dau. to Jacob and Mary Brady, bapt. in the Chapel.
30. Peter, s. to Peter and Margery Harford, Boot-lane.
July 1. Margaret, dau. to Francis and Margaret Dun, in the Chapel.
3. Catherine, dau. to Daniel and Catherine Herin, Caple-street.
3. Margaret, dau. to Wm. and Juggy Reynolds, Drumcondra-lane.
4. Catherine, dau. to Anthony and Catherine Conway, in the Chapel; *g.f.*, Thomas Reily, *g.m.*, Sisily Harris.
6. Richd. s. to Wm. and Anastas Fitzgerald, Mass-lane.
9. Sicily, dau. to Daniel and Ann Kenedy, Pill-lane.
9. James, s. to Simon and Catherine Harington, Boot-lane.
9. Nicholas, s. to James and Christian Toole, New Market.
17. Sarah, dau. to John and Mary Bryan, in the Chapel.
24. Elizabeth, dau. to Patrick and Ann Clerk, Inns-lane.
24. William, s. to Thomas and Elinor Thomas, opposite ye Ferry Boat. [Ferry-boat-lane, subsequently Union-street, now Harbour-court, Eden-quay.]
26. Ann, dau. to Robert and Mary Lowry, Charles-street.
26. Richard, s. to Bryan and Ann Caberon, Caple-street.
28. James, s. to Richard and Margery Daly, in the Chapel; *g.f.*, Henry Burke; *g.m.*, Catherine Umphres.
30. James, s. to George and Catherine Barry, Drumcondra-lane.
Augt. 3. Jane, dau. to Laurence and Mary Cardiff, Anderson's-court.
3. Ignatius, s. to Loughlin and Elizabeth Frayne, New Market.
6. Christopher, s. to John and Catherine Guydone, Mountrath-street.
10. John, s. to Charles and Honora Flood, Cole-lane.
20. Frances, dau. to Francis and Ann Savage, Church-street.
21. Barthw., s. to William and Mary Hollom, Little Green.
22. Daniel, s. to Cornelius and Margaret Connor, Liphy-street.
27. Andrew, s. to James and Margret Nowlan, in the New Market.
Sept. 10. Mary, dau. to Patrick and Catherine Morgan.
10. James, s. to Laurence and Elinor Newman, Loftice-lane.
10. Mary, dau. to John and Mary Conningham, Arran-street.
12. Arthur, s. to Charles and Mary Rigby.
14. Mathew, s. to Dennis and Margrett M'Cann, Mountrath-street.
17. Michael, s. to John and Ann Doyle, Turni-king-lane.
27. Christopher, s. to Garret and Clare Fitzgerald, christen'd in Great Britain-street; *g.f.*, Councillor Plunket; *g.m.*, Mrs. Elizabeth Darcy.
29. Michael, s. to Phillip Smith, Proper-lane.
29. Jane, dau. to Richard and Mary Hareford, Ormonds-key.
Oct. 1. Margaret, dau. to James and Johanna Ryan, Glasmoen-oge.
1. Catherine and Elinor, daus. to Barthw. and Catherine Mooney, Glasmoen-oge.
3. John, s. to James and Catherine Follard, Ormonds-key.
9. Margery, dau. to John and Margret Pemberton.
9. Mary, dau. to Robert and Mary Joyce, Pill-lane.
10. Frances, dau. to John and Elizabeth Field, Swift's row.
14. Catherine, dau. to Bryan and Anastas Ward, Liphy-street.
20. Elinor, dau. to Richard and Elinor Farrell, in Caple-street.
22. Ann, dau. to John and Elizabeth Bree, Church-street.
22. Margret, dau. to Edward and Ester Parcy, Caple-street.
30. Mary, dau. to Joseph and Jane Debo.
31. Simon, s. to James and Catherine Luceni, Loftice-lane.
Mary Aylmer was christen'd ye 28th; Mr. James Bryan, godfather; Mrs. Moor, of Drohedah, godmother. [This entry is in Dr. Nary's hand.]
Nov. 2. Nicholas, s. to Michael and Elizabeth Barry, Boot-lane.

5. James, s. to Wm. and Margret Dickson, near Tucker's-ro.oe.
 6. Laurence, s. to Thos. and Sisly McCoen, in the Market.
 6. Robert, s. to John and Mary Downes, Liffy-street.
 7. James, s. to Nicholas and Catherine Bryan, Loftice-lane.
 13. Daniel, s. to Thos. and Mary Cullen, Liffy-street.
 16. Patrick, s. to Edwd. and Sicily Boily, Church-street.
 19. John, s. to Nicholas and Catherine Monahan, Stable-lane.
 19. Margret, dau. to Thomas and Ann Dwyer, Caple-street.
 23. Elinor, dau. to Terrence and Elinor Jourdan.
 Dec. 3. John and Loughlin, sons to John and Bridget Cowlan, Glasmahon-og.
 4. George, s. to James and Winifred Chambers, in Cross-lane.
 9. Mary, dau. to Henry and Alice Bebe, Cloisters.
 14. Richard, s. to Nicholas and Mary Archbold, Ormond's-key.
 15. Catherine, dau. to John and Catherine Martin, Boot-lane.
 15. Thomas, s. to Edwd. and Catherine Little.
 17. John, s. to John and Ann Clerk, Turnikin-lane.
 17. Christian, dau. to John and Mary Marshall, Boot-lane.
 23. Ann, dau. to Thos. and Margaret Quin, Church-street.
 24. Ann, dau. to James and Mary Reed, Petticoat-lane.
 24. Ann, dau. to Harry and Mary White, Church-street.
 26. Christian, dau. to Roger and Mary McCan, Fisher's-lane.
 27. Stephen, s. to Peter and Mary Shandly, Mary's-lane.
 30. John, s. to Peter and Alice Duglas, Martin's-lane [now Lower Buckingham-street].
 30. Mary, dau. to John and Margaret Bryan, was baptized in Petticoat-lane; *g.f.*, Thomas Maglahlan; *g.m.*, Mrs. Mary Floyd.
 31. Sarah Aspoll was baptized in Liffey-street; *g.f.*, Mr. Mathews.

1728.

- Jan. 10. Mary, dau. to John and Bridget Ward, Cross-lane.
 12. Terrence, s. to Bryan and Mary Neale, Arran-street.
 17. Mary, dau. to Maurice and Catherine Goff, Turnikin-lane.
 21. Bridget, dau. to Patrick and Mary Fullam, Church-street.
 22. Patrick, s. to Andrew and Margaret Toole, Church-street.
 24. Grace, dau. to William and Grace Aston, Great Britain-street.
 24. Bryan Daniel was christened in Pill-lane; *g.f.*, Mr. Jeremy Ryan; *g.m.*, Mrs. Taylor, of Swords.
 28. Catherine, dau. to James and Mary Smith, Boot-lane.
 Feb. 6. Else, dau. to Luke and Mary Garvy, Charles-street.
 7. William, s. to James and Else McLaughlin, Drogheda-street.
 9. Jane, dau. to Joseph and Tomasán Bath, in the Little Green [now Green-street].
 11. Hanna, dau. to Thos. and Hanna Gibbons, Petticoat-lane.
 11. John, s. to Michael and Catherine Hall, Church-street.
 11. Christopher, s. to Thos. and Catherine Fottrell, Boot-lane.
 11. Margaret, dau. to Richard and Alice Bath, Henry-street.
 11. Mary, dau. to Daniell and Elisabeth Hanly, Ballybough-lane.
 18. Richard, s. to John and Margrett Woogan, Liffy-street.
 20. Tully and Henry, sons to Ambrose and Mary O'Neale, Liffey-street.
 20. Alice, dau. to Peter and Elinor Savage, Church-street.
 20. Elizabeth, dau. to James and Bridget Cooke, Mary's-lane.
 24. Catherine, dau. to James and Dorothea Darcy, Swift's-ro.oe.
 24. Bartle, s. to Patrick and Elize Sherlock, Church-street.
 25. Jane, dau. to Thomas and Catherine Healy, in ye Chaple.
 26. Catherine, dau. to James and Dolly Darcy, Swift's-ro.oe.
 26. John, s. to Thomas and Rebecca Roch, on the Strand.
 Mar. 1. Elinor, dau. to Bryan and Margaret Carrick, Pill-lane.

3. Mary, dau. to Joseph and Winifer Hackett.
 6. John, s. to Oliver and Mary Holligan, New Market.
 9. Ann, dau. to James and Frances Savage, Church-street.
 11. Ann, dau. to Thomas and Penelope Keegan.
 14. Patrick, s. to Simon and Mary Cavenagh, New Market.
 14. Patrick, s. to Henry and Margrett Wade.
 19. Christ., s. to Patrick and Juggy Bryan, Church-street.
 22. Mary, dau. to Michael and Ann Carty.
 22. Mathew, s. to Mathew and Honora Gallagher, Frapper-lane.
 24. Peter, s. to Patrick and Mary Quin.
 25. Daniel, s. to Richard and Margaret Farrell, Batchelor's Walk.
 26. George, s. to John and Margaret Peppard, christened in Church-street; *g.f.*, Mr. George Peppard, *g.m.*, Miss Elizabeth Malone.
 31. Ann, dau. to Patrick and Isabella Fox.
 31. Patrick, s. to John and Alice Callaghan, Arran-street.
 April 5. Mary, dau. to Arthur and Elinor Quin, Arran-street.
 7. Mary, dau. to John and Mary Butterly, Strand-street.
 8. Mary, dau. to John and Mary Mitchell, Strand-street.
 9. Thomas, s. to John and Jane Behan, Mass-lane.
 10. James, s. to Thomas and Mary Farrill, Abbey-street.
 13. Elinor, dau. to John and Elizabeth McKue.
 16. Patrick, s. to John and Elizabeth King, Cross-lane.
 20. James, s. to James and Jane Carbery, Drumcondra-lane.
 21. James, s. to Thos. and Ann Conigam, Strand-street.
 24. Easter, dau. to John and Ann Kelly, King-street.
 26. Hanna, dau. to William and Mary Smith.
 28. Margrett, dau. to Michael and Mary Carroll, Fisher's-lane.
 May 2. Christopher, s. to Garret and Mary Kelly, Bolton-street.
 2. John, dau. [*sic*] to John and Catherine Pierce.
 5. John, s. to Will. and. Bridget Fitzsimon, Church-street.
 5. Patrick and Bernard, sons to Pat and Mary Kelly, Caple-street.
 7. Esther, dau. to Thomas and Margery Gamell, in the Chapel; *g.f.*, Nicholas Plunkett, *g.m.*, Mrs. Mary Coghlan.
 7. Patrick, s. to Will. and Mary Murry, in the Chapel.
 8. Thomasan, dau. to Laurence and Catherine Norton, King-street.
 12. Mary, dau. to James and Sarah White, Stable-lane.
 23. John, s. to Mathew and Margaret Redmond, Ormond Key.
 26. Edward, s. to Dominick and — Dolan.
 June 1. Daniel, s. to John and Elinor McDonell, Pill-lane.
 1. Alice, dau. to Michael and Sarah Doyle, Loftice-lane.
 2. Grace, dau. to Neale and Elizabeth Kearney, Caple-street.
 12. Alice, dau. to Patrick and Mary McMahon, Church-street.
 19. Owen, s. to James and Mary Macoom, Strand-street.
 19. Joan, dau. to Michael and Ann Barnwell, Bolton-street.
 27. Thomas, s. to Patrick and Margrett Cashell, Abbey-street.
 28. Margaret, dau. to Alexander and Mary McDaniel, Williams-lane.
 29. John, s. to Patrick and Catherine Mullen, Petticoat-lane.
 30. Peter, s. to Richard and Mary Waters, Drumcondra-lane.
 30. Edward, s. to Anthony and Mary Hayes, Church-street; *g.f.*, Mr. John Malpas, *g.m.*, Mrs. Mary Lynch.
 30. Margaret, dau. to Daniel and Bridget Mealy.
 30. Mary, dau. to John and Mary Daily, Henry-street.
 30. Peter, s. to John and Margret Grimes, Charles-street.
 30. Peter, s. to John and Ann Smith, Tuccars-ro.oe.
 30. Peter, s. to John and Mary Kelly, Mary's-lane.
 30. Stephen, s. to John and Mary Russel, Little Strand-street.
 July 4. Patrick, s. to John and Mary Rook, Church-street.
 4. Margrett and Mary, daus. to Patrick and Elizabeth Cawlan, Church-street.

5. Ann, dau. to Patrick and Ann Furlan, Boot-lane.
 5. Patrick, s. to James and Mary Dogherda, Church-street.
 7. Peter and John, sons to Will. and Catherine Brannigan.
 7. Ann, dau. to John and Catherine Byrne, New Market.
 7. James, s. to Peter and Catherine Roe, upper end of Strand-street.
 7. Catherine, dau. to Edw. and Elinor Connelly, Pill-lane.
 7. James, s. to Zacharias and Elinor Rafe [Ralph] in ye Punch Bowle, beyond ye Ship buildings [now Old Abbey-street]; *g.f.*, Alexander Welsh, *g.m.*, Ann Plunkett.
 7. John, s. to Patrick and Mary Daily, Broad Stone.
 7. Peter, s. to John and Ann Gaffney, Bolton-street.
 7. Peter, s. to William and Mary Lamb, Church-street.
 8. James, s. to Nicholas and Mary Conry, Boot-lane.
 July 9. Ann, dau. to Hugh and Margaret Rook, Glasman-oge.
 9. Catherine, dau. to James and Ann Danelly, in the Chapel.
 9. James, s. to Patrick and Ann Flood, Tuccars-ro.oe.
 9. Patrick, s. to John and Mary Rise, Church-street.
 10. Elizabeth, dau. to John and Catherine Reily, Swift's-ro.oe.
 11. Christopher, s. to Will. and Ann Hntson.
 11. Ann, dau. to John and Mary O'Meara.
 11. James, s. to John Hand, Church-street.
 11. John, s. to Francis and Bridget Reily, Church-street.
 11. George, s. to George and Ann Dixon, Ormond-key.
 12. James, s. to Patrick and Sarah Coyle, Church-street.
 13. Bernard, s. to James and Catherine Cassidy, Church-street.
 14. James, s. to Francis and Ann Bermingham, Cherry-lane.
 14. Francis, s. to Edmond and Honora Lean.
 14. James, s. to John and Bridget Welsh.
 14. Elizabeth, dau. to John and Mary Stephens, Boot-lane.
 14. Elizabeth, dau. to Wm. and Mary Kerns, Pill-lane.
 14. Ann, dau. to Hugh and Mary Oats, Frapper's-lane.
 14. Ann, dau. to John and Ann Murphy, Abbey-street.
 15. Ann, dau. to John and Mary Lynch, Mass-lane.
 15. Martha, dau. to James and Mary Mullen, Caple-street.
 17. Charles, s. to John and Catherine Farrell, Mary's-lane.
 17. Margaret, dau. to Thomas and Jane Hareford, Drumcondra-lane.
 18. John, s. to Patrick and Mary Wogan, Strand.
 18. Ann, dau. to Thomas and Ann Newman, Strand-street.
 18. James, s. to Patrick and Mary Lynch, Britain-street.
 18. James, s. to Richard and Mary Gernon, Church-street.
 19. Mary, dau. to John and Andrew [*sic*] Rook, Drumcondra-lane.
 19. Charles, dau. [*sic*] to Thomas and Mary Wallace, Mary's-lane.
 20. Clare, dau. to Thomas and Ann Carroll, New Market.
 21. Joseph, s. to James and Mary Jemison.
 21. Robert, s. to John and Mary Cunningham, New Market.
 21. Joan, dau. to Owen and Elinor Byrne, Britain-street.
 21. James, s. to Patrick and Catherine Farrell, Mary's-lane.
 21. Jane, dau. to Robert and Bridget Doogan, Pill-lane.
 21. John, s. to Thomas and Mary Incker, Mary's-lane.
 23. Mariana, dau. to James and Philadelphia Delvin, Mary's-lane.
 24. James, s. to Hugh and Mary McCabe, Broadstone.
 25. James, s. to Daniel and Catherine Cowell, Abbey-street.
 26. Patrick, s. to Bryan and Mary Hall, in Caple-street.
 28. Mary, dau. to Francis and Judith Martin, Drumcondra-lane.
 29. Lawrence, s. to James and Ann Bollen, Church-street.

MARRIAGES.

1727—July, 1728.

- Jan. 2. John Garret and Jane Frankling, in the presence of Mr. Henry Skinner, John Butterfield, and others.
7. Thomas Ormsby and Mary M'Daniel.
9. Thomas Byrne and Ann Donellan; witness present, Walter and Mary Robisson.
9. John Carty and Mary Camel.
27. James Smith and Catherine Quin.
- Feb. 4. Patrick Gilligan and Sarah Stragnill.
13. Alexr. Walsh and Catherine Phillips.
14. Thomas Mannin and Ann Lucas.
14. Mr. Garret Ailmer was marry'd to Mrs. Mary Moor; Mr. Michael Moor, Mr. Henry Dillon, Mr. Edw. Bellew, Mrs. Moor, and Mrs. Eustace being present. [After this entry is the following note in a different hand: "by ye new Archbishop, John Linegar, de testor, Dio [nisius] Byrne, Decanus,"]
- April 6. John Doyle and Ann Walker; witness present, Mr. Morris, Mr. Cosgrave, and James Walker.
20. Alexander M'Daniel and Margaret Maguire.
- May 8. George Kearns and Mary Duff.
23. David Shehan and Elinor Hefernon married in Strand-street at Mr. Leigh's, in presence of Cornelius Hefernon, Mr. William Ferral, John Butterfield, and others.
27. John Sheredan and Mary Kenny.
- June 7. James Kelly and Jane Peppard.
25. Patrick Cashell and Margriett Glaven, Cow-lane.
- July 11. Thomas Doyle and Margaret Hoy.
11. Thomas Kelly and Mary Kean.
18. George Brennan and Catherine Hollowood.
26. William Dowling and Mary Sheal.
30. John Thracy and Elizabeth Dunn.
- Augt. 6. Owen O'Bryan and Elizabeth Kirwan.
10. John Crethorn and Margaret Austin.
23. James Maglalan and Jane Richardson.
23. Edward Reilly and Elizabeth Moore.
- Sept. 17. John Lyons and Mary Small.
- Oct. 1. Patrick McVagh and Mary Hodleston.
22. John Moore and Honora Morgan.
26. Richard Renolds and Mary Daily.
- Nov. 1. Patrick Fottrell and Ann Fottrell.
2. Thomas Branegan and Bridget Norton.
2. John Leacy and Margaret Brown.
2. Thomas Kennedy and Mary Webb.
2. Thomas King and Ruth Davis, in ye presence of Jane Davis, John Buttery, Margaret Dempsey.
- Dec. 3. Thomas Doyle and Mary Mortimer.
27. Peter Lamb and Catherine Fanning.
- 1728.
- Jan. 15. Neale O'Neale and Margaret Morris.
17. Patrick Bryan and Mary Duff.
19. Patrick M'Dermott and Margret O'Neale.
23. Michael Branan and Mary Mangan.
23. James Coffee and Elinor Roach.
24. Dennis Carty and Elinor Cavenagh.
- Feb. 4. Nicholas Lampard and Mary Matthews.
5. James Brangan and Bridget Dalton.
11. Clement Harford and Catherine Shaw.
24. Thomas Porter and Catherine O'Neale.
28. Laurence Poore and Margaret Kelly.
- March 1. Francis Andrews and Elinor Connor.
3. John Maginnis and Mary —, in ye presence of Margrett Brady, Wm. Browne, and George Stewart.
3. Walter Evers and Mary Anderson, in the presence of Mrs. Mary Harold, Mr. Henry O'Neill, Mr. Money, &c.
3. Philip Fahy and Catherine Morgan.
5. James Fitzpatrick and Rose M'Cabe.
5. Luke Dowlan and Catherine Kerrigan.
5. Michael Fox and Catherine Fitzgerald; witness present Mrs. Dalton, Mrs. Linegar, and Owen Reilly.
25. Thomas Connor and Bridget Fagan.
- April 24. John Griffin and — Laning.
30. Michael Rogers and Catherine Doran; witness present, Doer. Nary, John Buttery, Mr. Farrell.
- May 26. John Weade and Margaret Stracy.
30. Michael Brannigan and Catherine Conly.
- June 3. James Gill and Mary Umphris.
23. Hugh Roork and Juggy Connor.
- July 2. James Dowdal and Ann Gibney, Church-street; witness present, Nicholas Nugent, Will. Rice, Father James Farrel.
7. Patrick White and Elizabeth Casshin.
15. Garret Byrne and Elinor Glasco.
22. Cornelius Carroll and Elinor Field.
23. Joseph White and Biddy Drue.
23. Joseph Dowdall and Jean Dreak, Charles-street.
28. Nicholas Barry and Mary Joanes, Caple-street.
28. Bryan Neale and Winifred Nowlan.

(To be continued.)

IRISHMEN FIRST DISCOVERERS OF AMERICA.

THIS year, while we are engaged in celebrating the Four Hundredth Anniversary since Christopher Columbus first landed in America, it may be well to recollect, that the knowledge he had of a greater Ireland being beyond the Atlantic, gave him the hope and courage to search it out, being quite persuaded it was only the other side of India. But the Irish traditional and historic narrative gave the true geographical idea of it being a large Island, as in fact is the whole extent of the North and South American Continent. In addition to what has been stated, in a previous issue of the *Irish Builder*, regarding the Irish pagan traditions of Tir-na-nog, it may be well to allude to a belief in a far western land, and the classic notions prevailing with respect to it.

The Poet Claudian¹ speaks of a land situated at the very extreme part of Gaul, but far from its shores, and beaten by the ocean waves. Here, it was said, a ruler named Ulixes ruled over a people that were silent, after he had offered a libation of blood. Here, also, were heard the plaintive wailings of shades that passed by, with a slight rustling noise. And the people living on those coasts saw pale phantoms of departed persons, flitting through air. Loud lamentations escaped from their troop, while all the adjoining shores re-echoed to their terrific howls. It is clear, however, that those unhappy ghosts must have differed in degree from fabled denizens, inhabiting the Island of Joy.

The Irish traditional Hy-Breasil, or as written O'Brasil or O'Brazeel by modern writers, conveyed the idea of its being a Paradise, and it even inspired the genius of the Italian Poet Dante.² A very curious folio vellum manuscript on medical subjects is yet preserved in the Royal Irish Academy, written in Latin and Irish. When purchased many years ago in the west of Ireland, it was traditionally, believed that one Morough O'Lea, a resident of Connemara sometime in the seventeenth century, after having been transported by supernatural means to the enchanted Island of O'Brasil, there received a full course of instructions, regarding diseases and their cure, together with this MS., to direct him in medical practice. The O'Leys or O'Lees, who were for a long time physicians to the O'Flaherties, did not fail to increase their hereditary and professional celebrity, by the acquisition of this treatise.

In a very rare publication called "The Ulster Miscellany," and printed in 1753, there is an ingenious political satire, entitled, "A Voyage to O'Brazeel, a sub-Marine Island lying west off the coast of Ireland." It is doubtless modelled on the design of Dean Swift's voyages to Lilliput and Brobdingnag. The mode of descent to O'Brazil is represented as very peculiar. The Island itself is described as flecked with mellowed well distributed light, covered with beautiful landscapes, producing corn, fruits, trees, grass and flowers, abounding in streams, fountains, flocks and herds, fertile fields and pastures, with a happy state of society, religion and government.

Gerald Griffin alludes to a nearly similar subject, in one of his beautiful lyrics, regarding the supposed frequent appearance of a

phantom city situated amidst the wide Atlantic waves. According to another account, its walls are yellow, and in it dwell certain fairy denizens. These lines contain the tradition:—

"A story I heard on the cliffs of the West,
That oft through the breakers dividing,
A city is seen on the ocean's wild breast,
In turreted majesty riding.
But brief is the glimpse of that phantom so bright,
Soon close the white waters to screen it,
And the bodement they say of the wonderful sight,
Is death to the eyes that have seen it." 3

In Southey's poem of "Madoc," allusion is made likewise to certain green Islands on the western ocean. Thither "the sons of Garvan," and "Marlin, with his band of Bards," sailed. Thence they were not known to have returned. It was believed they reached a "Land of the Departed," and, as the poet resumes his description:—

"There, belike,
They in the clime of immortality,
Themselves immortal, drink the gales of bliss,
That o'er Flathinnis breathe the eternal spring;
That blend whatever odours make the gale
Of evening sweet, whatever melody
Charms the wood-traveller." 4

It is very probable, a belief in the existence of this fabled island comes down from a very remote period. It may have given rise to the traditionary trans-Atlantic voyage of St. Brendan of Clonfert, called also the Navigator. This holy and adventurous man is said to have spent seven Easters away from Ireland, having landed on a distant island:—

"The freshest, sunniest, smiling land that e'er
Held o'er the waves its arms of sheltering green."

The adventures of this holy Navigator and of his companions have been most exquisitely described, in Denis Florence MacCarthy's "Voyage of St. Brendan"—a poem, which for felicity of expression and ideality of subject, has nothing superior to it, in our own, or perhaps, in any other language.

SEWAGE DISPOSAL AT KINGSTOWN.

MR. THOMAS BROWN'S TANK SCHEME.

THIS scheme having been approved by the Commissioners, it was referred, by the committee in charge, to the Township Engineer (Mr. W. W. Berry), for his report thereon. This was read at the monthly meeting on the 7th inst., and is as follows:—

"In accordance with instructions, I have very carefully considered the scheme which has been originated by Mr. Brown for the purpose of intercepting the more solid portions of the sewage, in order to lessen the pollution of the sea beach at the points of discharge of the main sewers within the township. These tanks could be constructed upon any of the main sewers. As the sewer that discharges at the West Pier is the most important, I propose to more particularly indicate the character of the works in connection with it. At the same time it will be easy to understand the application of the system to any other of the outfall sewers. As the most suitable position in which to erect the tanks, I suggest the western end of the strip of land between the gasworks and the railway at Dunleary; or, failing that, let them be constructed under the roadway close to the same place. At that point the main sewer is 11 ft. over Ordnance datum, that is, it is 3 ft. under spring tide level. In designing the main tanks, it is to be considered that the deeper they are the more effectually will they serve to intercept the sludge, but the more expensive will they be to construct and to maintain. The cost of constructing a tank 15 ft. deep by 7 ft. in diameter, with guiding walls and strainers, will be about £100. A second main tank is indicated on the plan which has been so ably prepared by Mr. Brown, and which accompanies this report. The third chamber, into which the contents of the other tanks are to be pumped,

1 In *Rufinum*, Lib. I., v. 123-133.

2 In the composition of his "Divina Comedia."

3 See Gerald Griffin's Poems.

4 First part, sect. xi.

and which should be equal in capacity to them, and be placed at a higher level, so as to permit of the more fluid portions of the sewage gravitating into the first tank, and which is described upon the plan as the storage tank, will cost about £100. The total cost of these three tanks, together with by-pass and valves, may be estimated at about £350. These tanks will intercept the mechanically suspended solids, and a considerable improvement in the condition of the foreshore will result from their use. Although hand-pumps might be used to lift the contents, I beg to recommend the committee, in the event of these tanks being ordered to be constructed, to provide pumping machinery. A suitable gas-engine could be erected for about £200. The sludge will require to be immediately carted away, or, if suitable land can be procured, it may be mixed with peat or some other deodoriser, and be air-dried. The cost of compressing machinery to reduce the sludge to a more portable form would cost at least £500; but it should be remembered that it is difficult to obtain an easily compressible sludge without the use of chemical re-agents. Systems involving the use of chemicals, and of tanks suitable for the treatment of sewage with them, have been already described in my report to the Main Drainage Committee, dated 11th May, 1892, and subsequently in reports which were prepared for the same committee by Mr. W. Kaye Parry."

After the reading of reports from the other committees,

Colonel Bidwill moved—"As nothing has yet been done towards carrying out the Master of the Rolls' order of the 15th July last, for the abatement of the nuisance in Bullock Harbour, which should be rectified before the 15th January next, it is now moved that Mr. Berry's report, as submitted to the special meeting of the Commissioners held on the 1st instant, be now adopted, believing that it is the most economical course that can be taken, as the proposed work at a cost of £1,050 will be capable of being utilised in the carrying out of the board's own engineer's scheme for a more extensive main drainage system for the Glashule district if found necessary."

Mr. Brown said he had much pleasure in seconding the resolution, and bore testimony to the ability of their engineer, Mr. Berry.

Mr. Atwood also spoke in favour of the resolution, and to the desirability of employing their own officer in engineering works.

Mr. Dillon objected to the consideration of Colonel Bidwill's resolution until the plans of Mr. Berry's scheme were before them.

After a discussion, the further consideration of Colonel Bidwill's resolution was postponed, in order that Mr. Berry might have time to prepare all the plans of the proposed sewerage works, &c.

At the adjourned meeting, Mr. Dillon requested Mr. Berry to show plans of the scheme he proposed; but he would first ask him and the chairman to sign the plans of the proposed sewerage works which had been laid on the table.

The plans were then signed by Mr. Molloy and by Mr. Berry, and the latter read his report.

Mr. Dillon said he thought the Commissioners should be very careful as to what they done in this matter. He believed that Mr. Berry was a very able and promising young engineer, but he feared that he was in a secure position in reference to this scheme. Anything which he (Mr. Dillon) did was influenced not for the sake of opposition, but with the intention of protecting Mr. Berry from being thrust into a false position.

Colonel Bidwill remarked that they came there for the purpose of considering the resolution before the chair. He would like to know whether Mr. Dillon, in his anxiety for the reputation of their engineer, had ever gone into his office and asked to see his plans, or to give him personally advice or assistance? He never did, but he came there that day to quietly deride Mr. Berry and his

plans, and to give vague hints about the possible action of some person outside the board. They had got to obey the order of the Master of the Rolls in the case of the Port and Docks Board against the Commissioners, and he should press for a decision on his resolution.

Mr. Moran, in supporting Colonel Bidwill's motion, said that he favoured Mr. Berry's scheme, because it would work in with any larger scheme that might be hereafter adopted.

Mr. Dillon explained a counter scheme, and moved as an amendment—"That a line of sewer 600 ft. in length, running from the junction of Breffni-road, with Castle Park-road, to a point into deep water, 600 ft. to the north-west of Bullock Harbour, should at once be made, through which the sewage now escaping into Bullock Harbour should be diverted."

Mr. Wallace seconded the amendment.

Colonel Bidwill asked Mr. Berry if this was not practically a copy of a previous scheme of his?

Mr. Berry said it was practically the same as a scheme which he submitted on 17th August last, but which he did not recommend because it would not work in well with any subsequent scheme.

On a division, the voting was 8 and 8, and the chairman gave his casting vote in favour of the amendment, which was carried.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 227.)

THE celebrated monarch of Ireland, Ugainé Mór, who flourished, according to our Annals, more than 500 years before the Incarnation of our Lord,¹ was of the Heremionian line, and he left two remarkable sons; his elder named Cobhthach,² from whom descend all the chief families of Connaught, as also the O'Donnells, O'Neills, and others of Ulster; while from his second son, Laeghaire,⁴ are derived the chief families of Leinster. Ugainé Mór is said to have married Césarea, a Gaulish lady, who bore him no fewer than twenty-two sons, named respectively, with their territorial grants:—1. Cobhthach Coel, of Bregia; 2. Cobhthach Murthemn, of Murthemn; 3. Roigne, of Moy-Raigne; 4. Laoghaire, of the Liffy; 5. Fullus, of Feibh; 6. Cuan, of Argetros; 7. Nar, of Moy-Nair; 8. Norba, of Moy-Norba; 9. Fafeus, of Moy-Fembin; 10. Tarra, of Moy-Tarra; 11. Triath, of Moy-Tretherne; 12. Mail, of Cliu-Mail; 13. Sineus, of Luachair; 14. Bard, of Corcagia; 15. Fergus Cnai, of the Southern Desies; 16. Aidne, of Aidnea; 17. Moenus, of Moen-Moy; 18. Sanb, of Moy-Æoidric, in the Northern Decies of Meath; 19. Carbre, of Corann; 20. Laoghaire Line, of Linea; 21. Lath, of Latharne; 22. Manius, of Meath. The following are the names given to the daughters, with their several places:—1. Aifea, of Moy-n Aife; 2. Muresca, of Moy-Muirske; 3. Albea, of Moy-n Ailbe.⁵ From the foregoing statement it may be seen, that for the most part well-known ancient districts in various parts of Ireland have been called after them. To one or other of these, all the later Leinster families trace their pedigrees.⁶ Among the strongest of their fortresses was that situated on the western bank of the River Barrow in the County of Carlow, and denominated by our oldest chroniclers, Dinrigh, or "the Hill of the Kings." It is mentioned by O'Huidhrin, after describing the chiefs and districts of

Leix.⁷ This was one of the most ancient palaces, belonging to the kings of Leinster.⁸

After a long reign, Ugainé Mór was slain by his brother Badhchadh, son of Eochaidh Buaidhaig,⁹ but, Loighaire Lorc, his own son, immediately succeeded him as monarch of Ireland. Nor did he enjoy this distinction for more than two years,¹⁰ when his brother Cobhthach treacherously killed him, and his son Oilill Anye.

The latter is said to have reigned for many years,¹¹ and to have resided in his stronghold at Dun Righ, until Maoin, also called Labhradh Loinseach,¹² the grandson of Laoighaire Lore, raised a force of Munstermen, with whom he landed in the harbour of Wexford. Thence he marched towards the River Barrow, and by a surprise captured that fortress, putting the old usurper and his own uncle, to the sword, with all his retinue.

According to the Rev. Dr. Jeffery Keating, all those princes that governed the province of Leinster were lineal descendants of the Irish monarch Labhradh Loingseach, except O'Nuallain, who descended from Cobhthach Caolmbreagh.¹³

The people of Leinster, who are also called Galion and Domnand, are said to have taken their name Lagin from the *lagui* or long lances, which were borne by the troops who followed Labraid Longsech, when he returned to conquer his patrimony from Cobhthach, whom he killed at Dind Ríg. The pedigree of Labraid is traced in the Book of Leinster¹⁴ back to Milid of Spain, and up to Adam. The tribes of Leinster and their branches are also recorded.¹⁵

The celebrated Borama or tribute imposed on the Leinster province by Tuathal Techtmair, King of Ireland,¹⁶ led to various wars in after time; and, as the people of Leix owed allegiance to the kings of Leinster, they were no doubt involved in those contests, although their race was of Ultonian origin.

Again, in the second century of the Christian era, a great division of families took place in Leinster, during and after the reign of Cathair Mor.¹⁷ He divided the hereditary kingdom of Leinster among his sons, and of these he had thirty, by three different wives, Marnia,¹⁸ Mauda,¹⁹ and Crimanda.²⁰

Of those thirty sons, ten were the heads of well-known families. By Mauda, he had Ross Failge,²¹ said to have been his eldest son—Daire Barr,²² Eochad Timine and Bressal Enachlas. His other known sons were Crimthann,²³ Oilill Ketach,²⁴ Fergus Loscan, Dearemaiseach,²⁵ Æneas Niger,²⁶

7 In his Chronographical Poem we read:—

Ṭriall tair beanna an bharra ealaig
On cill iochmairi uimhealaig
O dion nioz co dhairiun uim,
O sfol m' aileir o a n-uairiub.

It is thus translated into English:—

"Pass across the Bearba of the cattle borders,
From the land of corn and rich honey,
From Dinrigh to Maistin the strong
My journey is paid for by their nobility."

"The Topographical Poems of John O'Dubhagáin and Giolla na Naomh O'Huidhrin," edited from the original Irish, by John O'Donovan, LL.D., M.R.I.A., pp. 88, 89.

8 The remains are in the townland of Ballyknockan, on the west side of the River Barrow, about a quarter of a mile to the south of Leighlin Bridge.

9 According to some accounts, he reigned as a usurper for one day and a-half. See Dr. O'Donovan's "Annals of the Four Masters," vol. i., pp. 76, 77.

10 These were A.M. 4607 and 4608. See *ibid.*

11 From A.M. 4609 to A.M. 4658. See *ibid.*

12 He was son of Oilill Anye, and he was carried away to Munster when young, to save him from the death Cobhthach had designed for this prince.

13 See "General History of Ireland," part i., p. 189.

14 Edited by Robert Atkinson, M.A., LL.D., pp. 311.

15 See *ibid.*, pp. 311 to 341.

16 He reigned thirty years from A.D. 76 to A.D. 106. See Dr. O'Donovan's "Annals of the Four Masters," vol. i., pp. 98 to 101.

17 He was only three years in the sovereignty of Ireland, from A.D. 120 to 122. See *ibid.*, pp. 102, 103.

18 She was daughter to Morand, a Pictish king.

19 Daughter of Bressal.

20 Daughter of Eochad of the Black Teeth.

21 He was ancestor of the Hy-Failge, and from that tribe sprang the families of the O'Connor Failge, Chief of Hy-Failge to the time of Queen Elizabeth, of O'Dempsey, Chief of Clannmalier, and of O'Dunne, Chief of Hy-Regan.

22 Ancestor of the O'Gormans.

23 He gave name to the district of Hy-Crimthann.

24 From him was named the territory of Crichean-na-Ketach.

25 His posterity inhabited the country about Dublin.

26 Roderick O'Flaherty states: "Æneas Niger ex sua filia genuit."

1 He was son to Eochaidh Buadhach, and he ascended the throne A.M. 4567, and he reigned fully forty years to the end of A.M. 4606. See Dr. O'Donovan's "Annals of the Four Masters," vol. i., pp. 74 to 77.

2 Rev. Dr. Jeffery Keating places his accession to the crown, at A.M. 3586. See "General History of Ireland," part i., p. 183.

3 Pronounced nearly "Cōv-a," now represented in the family name of Coffey. He was also surnamed Coel, or "the Slender."

4 Pronounced nearly "Lea-ry." He was likewise surnamed Lore, meaning "ferce" or "cruel."

5 See Roderick O'Flaherty's "Ogygia," pars. iii., cap. xxxviii., pp. 269, 261.

6 See Eugene O'Curry's "Lectures on the Manuscript Materials of Ancient Irish History," lect. x., pp. 207, 208.

and Fiach Bacchus,²⁷ said to have been the youngest of all.²⁸

THE ROYAL IRISH ACADEMY.

A GENERAL meeting of the Academy took place on Monday afternoon.

The President (Dr. J. K. INGRAM) occupied the chair.

The Rev. R. McCarthy, D.D., read a paper on "The A.D. Misdating in the Annals of Ulster."

The paper was referred to the council for publication.

Mr. J. Casimir O'Meagher read a paper, "On the Irish Marching Bagpipe." Mr. O'Meagher said the bagpipe appears to have been known from time immemorial. The Irish bagpipe was of Scotch origin, it was thought. The organ had its origin from the bagpipe. The organ was originally a bagpipe put into more mechanical form, and having a keyboard added. (A piper of the Gordon Highlanders was in attendance, and gave a "skirl" on the Irish pipe.) This has only two pipes thrown over the shoulder. Its scale appeared to be almost chromatic, but it is impossible to say so authoritatively, as the instrument required tuning.

Dr. Joyce, in moving that the paper be published by the council, claimed priority for the Irish pipe. The Scots people always kept up things discarded by the Irish. Ireland, he maintained, was originally Scotland

major, and Scotland was Scotland minor. Ireland discarded the name; Scotland kept it up. Just in the same way the kilts and the pipes had been continued in Scotland, after having been given up in this country.

Dr. Frazer read a paper—"On the Corp Naomh, bought for the Royal Irish Academy some years since: Its Antiquarian History."

Mr. Alfred Bell—"Notes on the Correlation of the Later and Postpliocene Tertiaries on either side of the Irish Sea, with reference to St. Erth Valley, Cornwall."

TENDERS.

For the erection of dwelling-houses at Dean's Bridge, Armagh. Mr. R. H. Dorman, County Surveyor, Armagh:—

T. Callan, Armagh (accepted) £1,296

Illustration.

BRIDGE OVER THE NORE AT INISTIOGE.

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The Irish Builder.

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It is respectfully requested that all parties indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

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OF THE

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Early History of the Parish—one of the oldest in Dublin.
Official Reports from St. Mary's and St. Paul's Parishes,
The Broad Stone.
The Priory of the Dominicans.
The Granary of St. Mary's Abbey—a Recent Survey of it.
Newgate Prison, the Sessions House, and Sheriffs Prison.
An Old Burial-ground on "The Abbey Green."
The New Fish and Vegetable Markets, correctly described.
The Secular and Regular Priests in SS. Michan's, Paul's,
and Mary's Parishes, in the year 1697.
Mary's-lane Chapel, and Dr. Cornelius Nary's labours therein.
Various Works Written by him.

Succession of Parish Priests in St. Michan's, 1604 till 1809,
Romance of the Gormanston Peerage—Rev. Dr. Dixon
conveys the minor to Paris
Antique Statue of the Virgin and Child.
Parish Priests from 1814 to 1890.
Benedictine Convent in Channel-row.
Charter of new Benedictine Nunnery in Dublin, by Jas. H.
The Dominican Nuns come from Galway.
Convent of Poor Clares.
Dame Mary Butler's visit to Whitehall.
Mass-lane, alias Golblac-lane, or Lucy-lane (now Chancery-
place).

This work has been reprinted from recent issues of "The Irish Builder," after being carefully revised.

A beautiful Plate of the New Facade in Balston-street is given, from a drawing by the Architect, G. C. Ashlin, R.I.A.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 791.

THE ALEXANDRA GRAVING-DOCK,
BELFAST.*

THIS dock was constructed between April, 1885, and May, 1889, to afford a much-needed increase of graving-dock accommodation in the port of Belfast for the repairs of the large vessels trading with the port, and to encourage the ship-building trade. A cofferdam was constructed in front of the entrance-basin, to shut off the River Lagan from the site; and under its shelter the docks and entrance-basin walls were built in timbered trenches, being, together with the floor, of Portland cement concrete consisting of $2\frac{1}{2}$ parts of whinstone, $3\frac{1}{2}$ parts of coarse gravel, 2 parts of sand, and 1 part of cement, faced with concrete composed of 3 parts of gravel, 1 part of sand, and 1 part of cement. Considerable inconvenience, however, was experienced from the springs or "blows" issuing from a stratum of quicksand near the bottom of the trench, and from the yielding of the piling-boards, owing to great pressure on unequal settlement. The dock had a length of 800 ft., a width of 50 ft. on the floor, a width of 92 ft. at the top, and a depth of 25 ft. at high water; and it was divided into three sections 300, 200, and 300 ft., by two inner entrance-sills and caisson-grooves, so that with three caissons it could be divided into three docks; but two only having been provided, it could be formed into two docks, having lengths of 300 and 500 ft. respectively. Granite was used for the grooves, quoins, sills, and coping; whilst the stairs and walls, as well as the walls, were faced with 9 in. of the stronger concrete. The two centrifugal pumps, placed at the bottom of the pump wells, could discharge 10,000,000 gallons of water from the dock within $2\frac{1}{2}$ hours. A derrick-crane was erected on the quay, mainly constructed of steel, and capable of lifting loads of 100 tons at a distance of 50 ft., 80 tons at 60 ft., and 60 tons at 70 ft. The total cost of the dock, basin, quays, and various works, amounted to £148,988, half of which sum was expended on the graving-dock, whilst the two caissons cost £8,759, the engines and pumping-machinery, with their buildings, £11,480, the derrick-crane with its foundations, £13,566, and the entrance basin, £7,477; and the cost of the quay-walls made up the greater portion of the remaining expenditure. The concluding portion of the Paper dealt with the disruption of the concrete of the graving-dock, which manifested itself mainly below low-water level, soon after the completion of the works. A report by Messrs. Hawkshaw and Layter, attributed this failure to the abstraction of the lime in the cement by the magnesia of the sea-water, a question which was fully gone into in the Papers on "Concrete as applied to the Construction of Harbours," and the ensuing discussion last Session. The remedies proposed consisted in the replacing of all defective concrete by

a richer impervious concrete, and, if this proved inadequate, the exclusion of the sea-water from the dock by surrounding it by a clay puddle-wall, carried down to an impermeable stratum, and rising above high-water level. The Engineer for the works was Mr. T. R. Salmond, assisted by the author.

OGHAM WRITING.

AN ancient form of writing on stone monuments, usually indicated by a succession of strokes and branching from a stem-line, seems to have had a remote origin in Ireland. Various attempts have been made to decipher these characters, but hitherto, without much apparent success. This style of carving is known by the name of the Ogham character. One writer states, that there were no less than thirty-five different modes for writing it.¹ According to tradition, Ogma, father to one of the Tuatha De Danaan kings, was the inventor of this species of writing. This account indicates a remote origin for the use of such hieroglyphics, the relics of which yet remain, on so many rude monuments. These are usually monoliths; sometimes found in caves, sometimes isolated, and frequently used by insertion into the walls of ecclesiastical buildings. In a few particular cases, a solution of their meaning has been attempted in the Latin language,² and probably at a time when their decipherment could only be attempted, by those conversant with the more ancient lore, in early Christian times. So far as can be conjectured, the Ogham stones and their characters were set up as monuments of ancient departed heroes.

It seems remarkable, also, that we find analogous cryptic forms among distant nations. The Egyptian writings were of three styles; the one used by the priests, the hieratic, or hieroglyphic, the demotic, or common writing, and there was the phonetic language by signs. On the Rosetta stone, the same thing was written in hieroglyphic, the demotic and the Greek language. The Greek having been translated, formed a key to the other two characters. Then, there was the system of expressing feelings by animals; as, for example, ill-temper was expressed by a monkey, vengeance by a lion, and evil by a sparrow.³ So far as our Irish Oghams have been deciphered and explained, their characters are resolvable into simple names of persons, or at most stating they were sons of fathers whose names also occur in connection. In the Royal Irish Academy, an old Manuscript is now preserved, in which there is a Tract on this very recondite subject, and which, if translated and published, might well be worthy the attention of students and of scholars.

"THE EARL OF LEITRIM
MEMORIAL."*

"At the present time, when attention is being generally drawn to the relations between landlord and tenant, it is a pleasant thing to bring before the public the state of matters upon the Leitrim estate in Donegal. His lordship's enterprising vigour and large-hearted benevolence had filled the mind of the public with admiration, whilst the practical benefits he had bestowed upon his tenantry had won their thorough regard.

¹ According to MacCurtin, in his "Irish Grammar."

² A remarkable instance of this kind in the Killeen-Cormac stone, with the bi-lingual inscription, Irish and Latin, discovered in the South of Kildare County, by the late Very Rev. John Francis Shearman, and fully described by him, in his "Loca Patriciana."

³ See Professor Leith Adams' Lecture at the College of Science, Dublin, "On the Manners and Customs of the Ancient Egyptians," delivered March 30th, 1877.

* From the Northern Whig.

By the steamer sailing weekly from the ports on the Mulroy to Derry, Portrush, and Glasgow, he had opened up a ready way of exit for their farm produce, and, by bringing the necessities of life to their doors, he had enabled them to obtain these at lower prices. The markets he had built and opened at Milford and Creeslough had greatly helped in this good work, and these, with the Town Hall in Milford (built, as he distinctly stated, for the convenience of the inhabitants), showed that his munificence was not the thoughtless expenditure of wealthy carelessness. For some time after his death, the idea of perpetuating his memory by some suitable memorial was frequently discussed in private, and at length it was felt that public action should be taken. A meeting was accordingly summoned in the Town Hall, Milford, by advertisement over the names of the Rev. F. B. Gallagher, parish priest of Carrigart, and the Rev. W. A. E. Murphy, rector of Mevagh. A large and thoroughly representative committee was appointed to carry out the project, with the Rev. W. J. Young, of Milford, as honorary secretary. The committee arrived at the conclusion that a statue of the earl should be erected in some public place on the estate. But they finally decided to request Lady Leitrim to express her wishes upon the matter. Her ladyship decided upon the erection of a Celtic cross in antique style, which should be placed near the grave of the late earl, in a spot which in its locality is both conspicuous and suitable. The committee at once adopted the idea. An exceedingly beautiful design was prepared by Messrs. Young and Mackenzie, architects, Belfast, and approved of by her ladyship and by the committee. It is intended that the cross shall be composed of grey granite from, if possible, the quarries on the estate at Donoughmore, in Fanad. It will stand some thirty feet high. The platform from which it will spring will measure about twenty feet square, and will be reached by several low broad steps. *This will be surrounded by a massive iron chain, swinging between rough granite posts, shaped in imitation of miniature ancient round towers.* The stock of the cross will measure thirteen feet six inches, and will consist of one large stone, weighing about five tons. It will measure two feet eight inches by two feet six inches at the pedestal, tapering slightly towards the arms, which will measure six feet six inches in their stretch. The ornamentation in the panels is a faithful reproduction of those in the ancient crosses at Monasterboice, Clonmacnoise, Kells, and elsewhere. The front face of the pedestal will carry an inscription, stating the purpose for which the cross was erected. A gablet below this will carry the Leitrim arms, in low relief."

[The above description of a great Celtic cross promises well, although an Irish cross "on a platform 20 ft. square that will be reached by several broad low steps," is an innovation of design which does not commend itself to a lover of Irish crosses. Surely, if there be one charm beyond another in the setting up of our ancient crosses, it is the simple *podium*,—the truncated pyramidal base which stands upon the green sward, or emerges from the tangle of brier and long grasses. The "20 ft. square" of granite steps seems a dreary modern cemetery notion in unsympathetic bad taste. But at least we may hope that the "*miniature ancient Round Towers, with massive chains swinging between them*," as an enclosure, is a joke. It recalls Pugin's description of the Gothic fire-grate, which was a model of a portcullis in cast-iron, in which the coals were poked with a cheap cast-iron crozier, serving for a poker. Messrs. Mackenzie, of Belfast, good archaeologists and "true principles" men, are not likely to countenance absurdity such as this would be.—ED. I. B.]

* Abstract of Paper by Mr. W. R. Kelly, M. Inst. C.E. read at meeting of Institution of Civil Engineers (London), on the 15th ult.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 246.)

THAT Map of the Queen's County by H. Moll, Geographer, and which was published in 1727, represents only the following roads as radiating from Maryborough, in different directions. One leading north—the old road on top of the Escir—passes by Burres to Mountmelick; afterwards crossing the River Barrow, it continues to Castlebrack; thence it parts into three different roads—one goes direct to Newtown, due north, another leads eastwards to Clonagowen, while the other proceeds north-westwards to Killeigh, all in the King's County.¹ At Mountmelick, a road runs nearly due west to Castlecuff, whence a branch road passes south-west to Kinnitty, while another branches still westwardly on to Bally Boy, both places in the King's County. Again, from Mountmelick proceeds a road north-eastwards to Portarlinton, whence a road passes south of the Barrow, and due east to Lea, and thence to Monsterevan; at Portnechich, a branch road parts direct to Clonagowen. From Maryborough, a road runs north-eastwardly by Killminchey, on to Imoe and B. Brittas to Monsterevan, in the County of Kildare. From Maryborough, and at Killminchey, a road runs nearly due eastwards to B. Maddock, and B. Killcavan to Woodstock and Athy, both in the County of Kildare. From Maryborough a road runs nearly west by south on to Red C. and Mountrath, thence on to Cranagh and Killballiduffe to Roscrea (Roscrea) in the County of Tipperary. From Mountrath another road leads more southwardly over the River Noire to Rushall, and on to Burrus; thence a road passes Ballaghmore and on to Roscrea (Roscrea). From Burrus another road leads due south by Skirk to Gortohie, in the County of Tipperary. From Burrus another road passes eastwards by Grange and Aghaboe on to Gortnicle. From Mountrath a third road leads nearly due south over the Rivers Noire and Gully to Gortniclea; thence it passes by Tantore on to Durrow, and it continues on to B. ragget, in the County of Kilkeenny. From Durrow another road proceeds westwards to Rathdowny, and thence to Gortohie; while still more southwardly, a separate road branches to Cully, whence it parts westwards to Whiteswalls, and joins the former road, within the Queen's County; and at Cully another road runs southwards into the County of Kilkeenny. From Maryborough a road extends south on to B. Knokan, and thence to Ballyroan; from this latter town, another road leads westwards to Boyley and over the River Noire to Gortniclea; while still running from Ballyroan, south of the Cullinagh Mountains, there is a branch road extending north-westwardly by Timohoe, and Logacuran to B. tabber, thence to Woodstock and Athy. From Woodstock a road runs along the western banks of the River Barrow, and due south by Doonbriu, Tankards T., Killiban, and Shrool, to Catherlach (Carlow) in the County so named; but before it crosses the River Barrow, a road branches from it due west, and on to Killeshill (Killeslin) and Garriudeny, it then ends at Colepit Hill, in the County of Kilkeenny. The road from Ballyroan still continues running south to Ballynekill, and thence it enters Rosseconel in Kilkeenny County. A branch road extends from Ballynekill westwards by Lisbiun and WaterC., at the River Noire, and there it turns southwards, afterwards entering Durrow. Besides the inaccuracies of names and bearings, it is quite certain, that on this Map of Moll, several of the older roads in the Queen's County are omitted altogether.

¹ The spelling of the local names, as found on Moll's Map, have been retained.

THE PRESIDENT'S ADDRESS.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

(Continued from page 238.)

Qualification of Fellows.—In view of the keen interest that is evinced in the proposed examination or qualification for Fellows, you will, no doubt, expect me to refer to it, and, indeed, I should not be disposed to pass without notice a subject which touches so nearly the interests of the profession and of the Institute. Last year I did not hesitate to express the conviction that, in pursuance of the permissive powers of the Charter, the Institute should declare that, on and after a date to be specified, "every person desiring to be admitted a Fellow shall be required to have passed such examination or examinations as may be directed by the Royal Institute," subject to the proviso that "in special cases the Council shall have power to dispense with such examination or examinations." If I have not since then pressed the consideration of this subject on your attention, it is not because I have seen any reason to alter or modify the view I thus expressed, but because, having, as it were, launched it, I deemed it only right that full time should be allowed for the mature consideration of a project fraught with such important interest. For the same reason, when a definite proposal was submitted to you by Mr. Barry, at the close of the last session, the decision you then arrived at to refer the whole subject to the Council, that they might consider it in all its bearings, had my full sympathy and concurrence; for it is scarcely possible that a subject of this nature can be treated in a controversial discussion at a sessional meeting with the same grave deliberation that it is likely to receive in the calmer atmosphere of the Council-room. The subject being still *sub judice* so far as the Council are concerned, I am precluded from treating it in such detail as I otherwise might do, but I apprehend that there is no impropriety in pursuing the course I adopted last year, and placing before you my own opinion, for what it is worth, without in any way pledging the concurrence of the Council in my views. I conclude that all are now convinced, whatever may be their individual opinions as to how the change should be effected, that some change must be made in the qualification for Fellows. It would be inconsistent and intolerable were the present position to continue, for it means that up to thirty years of age men can only be admitted to membership by passing an examination, and that after reaching that age they can be elected Fellows without any such test. This was never intended to be a permanent arrangement, and has only to be stated to secure condemnation. Mr. Barry's proposal is that candidates for the Fellowship should, with certain exceptions, only be elected from the class of Associates. This would practically be equivalent to applying the same test to the primary and secondary classes of members, and does not seem to me, therefore, sufficiently to meet the case. Then, again, there are those who consider that the qualification for the Fellowship should be a separate examination on a higher grade than that for the Associateship. To this the reasonable objection may, I think, be raised that men would thus be called on to undergo an exhaustive and trying ordeal at a time when they are likely to be engrossed with practice, and would not, therefore have leisure to prepare for it. The resulting issue might, and probably would, be that architects who had already passed the Associates' examination, and who might be demonstrating their ability in their executed works, might be subjected to the indignity of failure simply because they could not give the necessary time for preparation without sacrificing their position or their prospects. It would seem to me unreasonable to expect men, who have already proved their knowledge of the theory and science of architecture by having passed the Associates' examination, to undergo another and a more difficult ordeal of a similar

nature, their capacity for which they may have sufficiently exhibited in their works. On the other hand, it seems to me reasonable that the single test of theoretic and scientific knowledge is sufficient, and that, having once satisfied that, the further test or qualification for the Fellowship should be, in addition to what now exists, an examination of the actual work of the candidate. In short, let an Associate be tested as a student; let a Fellow be tested as an architect. To carry this out, it would only be necessary to enact, in accordance with the permissive powers of the Charter, that on and after a date to be specified, every person desiring to be admitted a Fellow shall, in addition to the present qualification, be required to have passed the Associates' examination, and to undergo the further test of submitting to the Council evidence of his executed works, always providing for special or exceptional cases by the dispensing power which the Charter confers on the Council. Such an enactment would remove the existing anomaly that a candidate twenty-nine years of age can only acquire membership by examination, while a candidate thirty years of age can acquire it without any such test; and it would further meet the views of those who, to use the characteristic, if somewhat emphatic, words of Mr. Ernest George, think that "the Institute should relinquish the custom of admitting any respectable father of a family, however damnable his productions." It is not apparent what is necessary connexion between being the father of a family and producing architectural works deserving of such condemnation, but this Mr. Ernest George will, no doubt, be able to elucidate during the deliberations of the Council. Apart, however, from the somewhat quaint and scarcely reasonable paternal restriction referred to, I understand Mr. Ernest George to mean that the proper test for admission to the Fellowship is the work of the candidate, and in this, as you will have seen, I concur. What better or more fitting test can there be? for it is true—happily or unhappily, as the case may be—that by his works he is already known and judged by the public. For some time past it has been the custom of the Council to request applicants for the Fellowship to submit drawings or photographs of their executed works, a custom to which I have consistently objected, on the ground that it was tantamount to the institution of a test or examination for Fellows which was not sanctioned by the Charter, and was therefore illegal. But the case is now different. We propose to institute such a qualification in accordance with the powers which the Charter conveys, and it consequently becomes not only legal, but to my mind would be equitable, to require an applicant for the higher class of membership to be tested here—as he is judged by the public—by his works. It may be objected that this would be subjecting an architect to examination on what, after all, is a mere matter of taste. I think not. Architecture is much more than a matter of taste, and if this test is applied, it must be a test of architecture. The evidence submitted must be such as will illustrate the candidate's power of design as well as his scientific attainments, and will enable the Council to judge of his title to be, not merely an artist; not merely a draughtsman; not merely a designer; not merely a contractor; no; but the combination and embodiment of all these—in one word, an architect. The Council of the Institute is a body composed of individuals each one of whom, probably, has his own idiosyncrasies and preference, and his own conception of what constitutes good architecture, but the collective body will, I apprehend, ever be what it should be, the representative, not of a school or a party, but of the profession of architecture, and I can conceive of no adjudicatory court likely to prove so fair and so competent. I indulge the hope that the Council may see their way to present to you in due course a unanimous recommendation on this subject, and that, after full discussion, the Institute may also arrive

at a unanimous decision as to the best solution of the problem. Division is to be deprecated. Opinions of course differ,—nor could we expect it otherwise. If each one resolves to adhere uncompromisingly to his own opinion, unanimity cannot be attained. Let me venture to urge on all to approach the discussion of this matter in the spirit of friendly compromise, willing to be convinced,—to let good arguments give place to better,—and anxious only that the ultimate decision may be such as may most conduce to the true and permanent interest of architecture, and to the attainment of real progress. . . .

Capital and Labour.—The great question of Capital and Labour, which engages so much attention in the present day, consequent on the oft-recurring and disastrous strikes of recent years, is one which we architects cannot disregard. Capital and labour are alike essential to the execution of our designs. Without them we could produce pictorial representations, but not buildings. Hence, the disturbance of amicable relations between them vitally affects our interests. Labour may be congratulated on the manifest desire now exhibited by society to accord to it fair, and even liberal, remuneration. That this may to some extent be attributed to the stand which workmen have by combination and organisation made in defence of their interests, may be fairly conceded. To combination for such legitimate objects, no reasonable person can, or does, object; but when trade organisations are used for the purpose of imposing arbitrary restrictions on labour, of depriving the workman of his right as a free citizen to work how and as he pleases, or of arbitrarily reducing the hours of work without a corresponding diminution in wages, such as may be dictated by the law of supply and demand, then it seems to me that the real friend of the working man is not his leader who preaches such pernicious doctrines, opposed alike to political economy and common sense, but rather he who bravely warns him of blind leaders of the blind, who, be their motive what it may, are luring him to inevitable and certain disaster. When last year I was—as your representative—invited to settle by arbitration the differences that then existed between the master builders and the carpenters of London, I did not hesitate when making the award to record my conviction that the result of such action had been to inflict permanent injury on workmen by driving their trade into foreign channels from which it was not likely to return. That this has occurred there is abundant evidence. A significant admission of it was, indeed, afforded at the Trade Union Congress held in Glasgow in September, when resolutions were proposed with the view of moving Parliament to prohibit the importation of foreign work and foreign labour. It is true that the proposal proved too much even for the Trade Union Congress, who betrayed no nervous hesitation in adopting any number of resolutions of an advanced socialistic tendency; but it is none the less a sign of the times that such resolutions as I refer to should even have been proposed. That the unsound and unwise policy pursued by the Trade Unionism of to-day, if persisted in, will result in permanently injuring the trade of the country, I firmly believe. The agitation for the statutory restriction of labour to eight hours, or any number of hours arbitrarily fixed, conflicts with the principle of freedom which we have always, and rightly, regarded with pride; it is repulsive to our inborn feelings, and would make slaves of freemen. Man is endowed with energies, with mental and physical powers, not that they may stagnate by limitation, but that they may be used to the utmost in promoting the welfare and comfort of those dependent on him and the consequent prosperity of the community. No Trade Union, Parliament, or Power, has a right to restrain the energy or restrict the will of any individual. Would that the working men of England would appreciate the danger they incur by limiting their native powers of production, and would see how much better it is to have work on

reasonable terms than to drive it away, and then try by arbitrary and delusive restrictions to spread what is left over the wide area of the unemployed which has been created to a great extent by their own short-sighted folly. Would that we could apply the words of Matthew Arnold:—

"In their own tasks all their powers pouring,
These attain the mighty life you see."

A "mighty life," because free from pernicious limitations, and characterised by the ceaseless concentration of power and energy which constitute the only real highroad to success. A "mighty life," because inspired by teaching which is Divine, to work,—and work with might,—while it is called to-day. When workmen burst the fetters with which Trade Unionism is surely binding them; when they return to the good old days of freedom of contract and earnest work; when they recognise, what is as old as the hills, that "in all labour there is profit; but the talk of the lips,"—of which we hear so much in these later days,—"tendeth only to penury"; then,—but not till then,—may they expect to emerge from the dismal shade of progressive socialism, and walk in the path of real progress.

The Chicago Exhibition.—The World's Fair, which is to be opened at Chicago on the 1st of next May, promises, in point of magnitude and completeness, to eclipse all previous Exhibitions, remarkable as many of these have been. The site allotted for the purposes of the Exposition comprises the enormous area of 1,037 acres, of which, however, it is probable that only 660 acres will be utilised. The Paris Exposition Universelle of 1889 occupied a site of 173 acres,—about one-fourth the size of that of the World's Fair of 1893. The designs of the principal buildings of the Exhibition are the work of different architects, and are said to be "prepared under such conditions as to secure a harmonious effect." The character of the buildings is Classical, and the adoption of one style throughout has, no doubt, facilitated what might appear the somewhat difficult process of harmonising individuality. Separate buildings are devoted to the fine arts; manufactures and liberal arts; agriculture; machinery; electricity; mines; transportation; and horticulture. The interests of Great Britain have been confided to the care of a Royal Commission, consisting of the Council of the Society of Arts, with H.R.H. the Prince of Wales as President. The labours of organisation are distributed among fourteen committees, irrespective of twenty-three local committees throughout the kingdom. The Fine Arts Committee have issued invitations to a large number of painters, sculptors, and architects to contribute works for exhibition, and these, as well as other works of art which may be selected by the Committee, will be insured, transported to Chicago, and brought back, at the expense of the Royal Commission. Drawings should be delivered at the offices of the Royal Commission, John-street Adelphi, prior to a date of which due notice will be given, probably before the end of the year. The Fine Arts Committee hope that the exhibition of architectural drawings will be such as may be thoroughly representative of the architecture of our day, and worthy of the profession.

THE BIRCH.—Not long ago the fact of the birch being one of the two tree names which are common to all the Indo-Germanic languages, was held to conclusively disprove the generally-accepted notion of the Aryan people having originated in Central Asia. As this tree is the most characteristic one of Scandinavia, it was concluded that the Indo-Germanic races must have had their original home there. Now, however, we have Dr. Kranse, of Kiel, showing that it is dangerous for philologists to reckon without the botanists, for not only is the *Betula alba*, the Scandinavian birch, found in the north of Europe, but it flourishes all through Siberia, and from the Highlands of Afghanistan to Japan; while two closely-allied species are found in various parts of the Himalayas, and even in the mountains of Central Asia. In Persia and on the plains of Turkestan alone are they lacking.

THE McARTHUR HALL, BELFAST.

THIS building was erected by Sir Wm. McArthur, K.C.M.G., for the education and training of the daughters of Methodist ministers, at a cost of £15,000, and was carried out from the designs of Sir Thomas Newenham Deane and Son, architects, Dublin, who succeeded in obtaining the first place from amongst sixty competitors in open competition, in 1887. The building is treated in a free Tudor style, and is built of red brick, with stone dressings. It has a frontage of 160 ft., and a depth of 110 ft., with two internal courtyards. On the ground floor it contains a large dining and recreation-hall, library, study, matron's rooms, kitchen, and offices, &c. On the first and second floors, dormitories and lavatories to accommodate sixty students. The builder was Mr. Robert Corry, of Belfast. The clerk of works, Mr. Henry Mothram. The heating was carried out by Messrs. Musgrave, of Belfast, and the plumbing by Messrs. Dowling, of same city. The wood-block flooring, parquet, and mosaic, by Wood-Block Flooring Company, and Messrs. Oppenheimer, of Manchester.

THE FALL OF A CHANCEL ARCH IN A NEW BUILDING.

LOSS OF ONE LIFE.

ON the 21st ult., the coroner for South Armagh held an inquiry into the circumstances attending the death of Patrick Bennett, a mason, caused by the fall of the chancel arch in the new R.C. church, Cullyhanna, at which he was engaged.

The new church was approaching completion, the greater part of the building work being finished, and the roofing partially done. The chancel arch lies as it fell on the day of the accident—a confused heap of bricks and mortar. A portion of the arch at one side still stands, although unsupported.

Mr. Moynagh, solicitor, Dundalk, watched the proceedings on behalf of Mr. Wynne (the contractor), and Mr. Rorke, Newry, on behalf of the next-of-kin of the deceased.

The evidence given on the first day of the inquiry consisted of the depositions of Michael McManus (brother-in-law of deceased), who identified the body, and Dr. M'Bride, who gave medical evidence. Michael Ginnety's (foreman mason) deposition is as follows:—

Michael Ginnety—Is a foreman mason in the employment of Mr. Wynne. Have been engaged at the new church and parochial house in Cullyhanna since the beginning of the work in August, 1890. Patrick Bennett was engaged at the work from within a week from the commencement. He was a mason. During the past week or fortnight he was engaged in removing the centerings from the arches through the church, and was engaged this morning at the chancel arch, which is the largest one in the church. He was standing on a scaffolding, and his assistant was there also. The scaffolding was about 30 ft. from the ground. I told him to be very cautious. He replied, I am just as cautious as yourself. About a quarter of an hour afterwards I was outside, and heard a noise within the building. Went inside, and found that the top of the arch had collapsed, and a quantity of brickwork was lying on the floor. Did not at first see the deceased. Nearly all the men came in, and they found the deceased partly covered with brickwork. Saw the deceased when he was lifted, and he appeared to be dead. Not more than two minutes elapsed from the fall till he was lifted out. Deceased himself was engaged at the construction of the arch and centerings.

Nicholas Bennett, a brother of deceased, said he was about 51 years of age at the time of his death.

To Mr. Moynagh—I am foreman carpenter

to Mr. Wynne. Have been 22 years a carpenter, and have considerable experience. Have from time to time supervised the work at the new church. It was according to my directions the roof was built. Had from time to time seen the arch which fell. According to my opinion, it was constructed on workmanlike principles. The materials were sound and good—the best that could be procured, good brick and mortar. The bricks came from Dundalk a few days before they were used. Every reasonable precaution was taken in the construction of the arch. I may also add that the foreman gave instructions to tighten the bricks home, and took the hammer out of their hands—

Coroner—You did not hear him?

Mr. Moynagh—He cannot say that, and I did not ask the question. The foreman mason, Ginnety, will say as to that.

Coroner—Is it your duty to give supervision to work of all sorts?—In some cases.

But Ginnety is foreman mason; would it not be his duty to supervise this arch?—Any construction of wood it is my duty to superintend; there was woodwork in the construction of the centerings as well as brickwork.

Are you over Mr Ginnety?

Mr. Moynagh—As a matter of fact, the foreman carpenter *stands in the shoes of the contractor!*

Witness—When there is a foreman mason, he generally looks after his own part of the work, but we work in unison. I was at the chapel several times during the progress of the work whenever there was any carpentry work to be looked after. I was here about a fortnight ago. The arch was then built. It was commenced about two months ago, and finished in about a week. There were, I believe, four men engaged at it, but I was not here during the construction. The foreman mason asked me my opinion of the arch before it was taken down. I made a close inspection of the arch—went up on the scaffolding to the top, and out on the roof, and examined it *as a man of experience*. He asked me what I thought of it, and I said it was a good job!

Mr. Moynagh—Would you say what, in your opinion, was the cause of the fall of the arch?—My opinion is, that it must have got some *wrong pinch* in the drawing of the centre; it could not possibly fall otherwise. There were planks being taken out at the time, and one of them must have been forced in such a way *as to act as a lever on the arch*. The arch would thus be forced out of its place!

Coroner—In the case of a properly built arch, would that happen?—Oh, yes. *A lever is very powerful*. That of course is only an opinion as to the *cause* of the accident.

That of course would be the fault of the men engaged in drawing the centerings?—It might be: it would not be wilfully, of course.

Would not that be observable at the time?—Oh, the whole thing *would come down at once*.

Cross-examined by Mr. Rorke—Was not requested to come here to give evidence. Thought it was natural that I should be here as a brother of the deceased.

Mr. Rorke—What sort of scaffolding were they working on?—A good scaffolding alongside the arch, of planks 9 by 3, 7 by 3, and so on.

Was there anything to lead to this opinion of yours as to the cause of the accident?—There must have been something very strange, and that is the only way I can account for it. There are three bricks lying in the heap still bonded together, which shows there must have been *some force used* in displacing them.

To further questions witness said he understood deceased was working in a sitting posture at the time of the fall of the arch. The pinch, he supposed, would have occurred close to him, and about 4 ft. from the crown to the left side of the arch. There are probably about 10 ft. of the arch still standing.

William Hague, architect, F.R.I.A.I., examined by Mr. Moynagh—I designed the church. Mr. Wynne has done work as builder

under me frequently, and I found him a satisfactory man. I saw the arch on my visit previous to the disaster, on the last Friday of October. It was then keyed and finished, and, in my opinion, was constructed on sound principles of workmanship, and the materials used in its construction were good and proper. I have heard Mr. Bennett's theory from the point of view of an intelligent workman, *he being a carpenter and the work being brickwork*. Bennett's class of work was intimately connected with the class of work under review, the centering. He is, therefore, a very good expert to give an opinion as to what has happened. I have myself formed an opinion as to the collapse of the arch. The opinion I have formed is *that it was not the arch gave way first*.

Coroner—What is your theory further?—The theory I have formed from the standpoint of fact is this: that two things occurred in reference to it. One was, that in taking down or removing the centerings to the level Bennett has described, I believe there was a pinch as he describes, and pretty clearly; but there was previous to that the impact of a hammer used in removing the fixed structure under a structure intended to stand. I mean that in removing, that there was a vibration of the superincumbent brickwork—over the arch—which vibration, owing to the work being in what we term a green state, caused the work above to topple over, lose its perpendicularity, and, in coming forward, took the arch with it.

You mean the striking of the hammer on the centre caused a vibration, and communicated that to the arch?—Yes; the work was green, and, in falling forward, the work kicked the arch itself. It was the shock given to the superincumbent work which caused it to topple over, and bring the arch with it.

Was it the withdrawal of the support which caused the falling of the arch?—The falling of the superincumbent work kicked it. That work might have fallen if the centres were not removed after the shock; but the arch itself was good for centuries, even if it had not bonded. The brickwork was put up in very wet weather; it was green. If the church had been slated before this work was touched, the mortar of the superincumbent work would have had time to dry out, and the work would have been firm and good; but instead of that, it had got no chance of drying, and was in the state of so much putty—there was no cohesion.

To Mr. Rorke—The arch was splendidly built, and capable of carrying forty times the weight that was on it. If I had been asked my opinion before this centre work was removed, I believe I would not have directed its removal. The superincumbent masonry got the first shock when he began to work—a very slight shock would have caused a displacement, taking into consideration the nature of the arch. Workmen, as a general rule, know as if by instinct when and how to touch work of this sort, but they are *often careless*. Generally a man works at each side. I examined the arch when I saw it last time I was here, and saw nothing wrong with it. It was well haunched and properly built; but there is no test of an arch *except its survival*. I had every confidence in the mason, Ginnety, and I consider it was an excellent piece of work. The arch was an element in the consideration of work done, for which I gave a certificate.

To Mr. Moynagh—Ginnety told the deceased to be cautious, which is a natural thing to do amongst workmen. There is nothing overhead which is not perilous where there is scaffolding involved. Ginnety is a thoroughly competent man. If the centres had been removed cautiously and safely by the deceased, the arch would indubitably be now standing, and the whole thing all right.

To the Coroner—The arch is a common design; the material was specified to be best stock brick. If I had local knowledge at the time I would have specified Dundalk brick, which were the brick used. The mortar was two parts sand and one lime. I

saw the mortar and the bricks during the work, and approved of them, and they were put together in first-rate style. The weather during the progress of the work would be a most important factor in the stability of the work. I would not say that the weather was such as work such as this ought not to be done in. During the construction of the arch and superstructure, the weather was very bad. Assuming the centerings were prematurely removed, I doubt if any care or skill in removing them would have prevented the accident. If the roof had been up, or if the masonry had had time to dry, care might have obviated any danger from the removal of the centerings at the time. These things all depend on circumstances. My last certificates (produced by the Rev. Father Kerley), dated October 7th and November 14th; my last visit was on October 28th, and the preceding one immediately before October 7th.

Coroner—As I understand, three elements enter into the matter—the weather, the lapse of time before the taking down of the centerings, and the way in which the work was done. You have already rejected one. Then the lapse of time and the manner of working. In your opinion, no matter how much care was taken, would the insufficient time alone be enough to account for the accident?—Not necessarily, but there would be a risk. It is not possible to answer the question with certainty.

Coroner—If the weather had been favourable, and the centers allowed to remain as long as necessary, would any want of care have brought it down?—Oh yes. It could be brought down by leverage, but not with the ordinary care used on such occasions—not without some untoward action or deliberate act.

Coroner—Would you say that the vibration, caused by the impact of the hammer of which you speak, implied want of care?—I would say sufficient care was not taken when the impact was given to that extent, taking into consideration the state of the arch and the work over it.

James Robb (labourer) deposed that the day of the accident, before deceased went at the work, witness heard Ginnety warn him to be cautious. Deceased knocked away the centering with a hammer; it took strong blows to do it. Deceased was sitting on one of the planks of the scaffold, and witness was standing on the scaffold at the same level, but on the other side of the arch. Saw the arch falling; portion of the *debris* fell on the deceased.

To Mr. Rorke—There had been about four feet of the centering removed; it was deceased removed the first bricks immediately under the apex; he used an unnecessary force as far as I could see. Was at the left side of the arch when the crash occurred, not more than 12 or 13 in. from me. Was at the time driving out a cutting or plank about 4 ft. long; it took him a long time to drive it out at the end convenient to the arch. I looked up and saw the arch going convenient to where he had taken the cutting out. I shouted and saw no more. I jumped to a part of the scaffolding that was some distance from me. It was the side of the arch that we were working at that gave way first; I could not say whether it was the arch or the masonry above it that first gave way.

To the Coroner—It was the evening before that we began removing the centerings; there were no others at it except the deceased and myself. I did not strike the centerings at all. I only removed the stuff as he took it out. I did not hear anybody tell him to remove the centering, we had been at it previously in other parts of the church.

Michael Ginnety (foreman mason), recalled, in reply to the coroner, said it was by his directions that deceased went to remove the centering of chancel arch, after all the smaller arches had been so treated. There were fifteen to twenty arches altogether, and deceased was removing the centerings, *as there was no other work to be done at the time*. Deceased and witness, with two other men,

The M'Arthur Hall Belfast.

SIR THOS. NEWENHAM DEANE & SON,
ARCHITECTS, DUBLIN.



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built the chancel arch. It was well built; the joints were not too large.

To Mr. Rorke—Mr. Wynne was here on the Friday previous, and we decided on the course to follow during the week. We spoke about taking away the centering of the chancel arch, and he directed me to get the centre-pieces taken down.

To Mr. Moynagh—I cautioned him more than twice at this work. I was up when he was commencing, and I asked him how it felt. He said it was all right, and that I might not be afraid. I cannot form an opinion as to the cause of the fall, except that some wrong blow was given, or the leverage spoken of.

Mr. Wynne offered himself for examination, but Mr. Rorke did not ask him any questions.

Mr. Moynagh, in reviewing the evidence, said that if there was one thing more clearly proved than another, it was that Mr. Wynne was in no way responsible for the accident. Good material was used, and every care taken in construction, and the deceased was a competent man to carry out the work of removing the centering. Mr. Bennett, a near relative of the deceased, told them that in his opinion it was perfectly safe, as far as he could see, to remove the centres. It was regrettable that more care was not taken, but they all knew that workmen who were accustomed to carry out dangerous work came to look upon danger with a certain contempt.

Mr. Rorke, in the course of his remarks to the jury, said it might be providential that the arch fell when it did, and not afterwards, when the priest might be struck down at the altar, or any of the jury amongst the congregation, when the church was finished. He asked the jury to take into consideration the employer's liability, and the condition of the widow and children.

Several of the jury said they had had sufficient evidence, but the coroner said it would be as well, to prevent cavilling thereafter, to examine Mr. Wynne.

Mr. Wynne, in reply to the coroner, stated that he had seen a similar arch built in December, and the supports struck within three weeks, and the arch stood perfectly sound. That was in the County Louth. From witness' experience as a skilled workman, the work was ripe for the removal of the supports, and his only theory as to the cause of the fall was the same as Mr. Bennett's and Mr. Hague's.

To Mr. Rorke—Once the arch is keyed, it does not require supports, but is self-sustaining; it does not require bonding in some cases; in this case I took into consideration the limit of time required for bonding.

The Coroner addressed the jury at considerable length, reviewing the evidence as to the cause of the fall of the arch, which he submitted to the jury as the only question for them to decide. If they considered that it was the premature removal of the supports that caused the fall, they had then to consider whether Mr. Wynne had taken reasonable precaution beforehand in determining whether it was time to remove them, and they had his own evidence that in a similar case he removed them much sooner.

The jury, after a short consultation, found a verdict of death by the accidental fall of the arch, and added that they were unable to determine whether any person was to blame. The following rider was added to the verdict:—

"We beg to recommend the widow and orphans of deceased to the consideration of all concerned with the new church, as well as to all other sympathisers."

THE LONDON COUNTY COUNCIL'S LABOUR BILL.*

THE Bridges Committee found that the contractors for the Barking-road Bridge had not filled in the schedule of wages to be paid to the workmen, and accordingly the Committee asked the contractors to state whether they

would be prepared to accept the rate of wages and hours of labour as fixed by the various trades unions concerned. The Thames Iron Works Company, whose tender was the lowest, stated in reply that they were prepared to do so, but that it would necessitate an increase in their tender by the sum of £5,750. The Committee recommended that the tender of £54,353 be accepted. The action of the Council has, therefore, resulted in making this one piece of work nearly one-tenth more expensive to the ratepayers than it would otherwise have been. It is high time to point out that it is the advantage of the whole community and not one section of it which the governing body have to consider. In order to put money in the pockets of a certain number of manual labourers the community generally is to be taxed. We say advisedly a section of the community, because it is only the workmen employed by the Council or working under their contracts who benefit by this extravagance. The thousands of other workmen employed in the Metropolis derive no advantage from it, and thousands of clerks, shopkeepers, and tradesmen have their financial burden increased. Such a policy as that by which the Council is at present actuated can have but one end—an increase in the financial burdens of the Metropolis, which sooner or later will cause the electorate to choose representatives pledged to an economical administration. No doubt, for a time it may have a certain measure of popularity, but even this is uncertain. As a matter of fact, the regulations of the Parks Committee have not given satisfaction, and there is equally no doubt that workmen not engaged on the Council's work will be envious of the better fortune of those who are so employed. At the very time, too, when it is notorious that manual labourers are drawn too much to London, this tendency will cause men from the country to come to the Metropolis, and thus the policy of the Council is adding to the great mass of unemployed labour in London.

OUR NEW MARKETS.

It is announced that on Tuesday next, the 6th inst., the new wholesale Fish, Fruit, and Vegetable Market, in St. Mary's-lane, will be formally opened by the Rt. Hon. the Lord Mayor and the members of the Markets Construction Committee. A correct account of these markets has appeared in our issue for August 1st of current year, and copies can still be had at our office.

LAW.

LIABILITY FOR MAINTENANCE OF A RAILWAY BRIDGE.

EXCHEQUER DIVISION.

(Before the Lord Chief Baron and Mr. Justice Murphy).

THIS matter came before the court on a case stated by the Bray Magistrates. It appears that the Dublin, Wicklow, and Wexford Railway Company were summoned by Mr. R. A. Gray, Surveyor for the Southern Division of the County of Dublin, before the Petty Sessions Court at Bray as being liable and legally responsible to maintain and keep in repair the bridge known as Shankhill-bridge, situate near Shankhill Station. At the hearing of the summons, it was proved, on behalf of plaintiff, that the bridge had been erected by the railway company for the purpose of carrying the public road between Bray and Dublin over their railway; that the roadway over the bridge and the approaches to the bridge were then out of repair, and that defendants had neglected to carry out the necessary repairs after being called upon to do so, although the company had previously done so during the complainant's period of office. For defendant no evidence had been given, but it was contended that inasmuch as the evidence given for complainant showed that the bridge, roof, and approaches, since

the making of the bridge, had always been maintained by the county, and not by the railway company, the county surveyor could not apply to the magistrates for an order to compel the railway company to put the bridge, road, and approaches in repair, the complainant being estopped by the course which the Grand Jury of the County Dublin had followed since the making of the bridge, and that the magistrates should presume that the Grand Jury of the County Dublin having previously enforced the 46th section of the 8th Vic., chap. 20, that there must have been some arrangement or understanding between the Grand Jury and the railway company as to the repair of the bridge and approaches by the Grand Jury, and that the company had acquired by prescription indemnity from liability to repair the bridge. The magistrates held that the company were liable to make the repairs, and the Exchequer Court now upheld this decision.

ALLEGED "SCAMPING" IN THE BUILDING TRADE.

EVIDENCE was received by the Labour Commission on Tuesday, on behalf of the Central Association of London Master Builders. Mr. J. M. Burt denied many of the statements made before the Commission by the workmen witnesses. For instance, it was incorrect to say that there was not inspection by Government. Certainly a Government inspector visited his works once or twice a year. Neither was it correct to say that, if the masters only cared, work could be made much more regular for the men. It was as much in the interests of the masters as in the interests of the men that the work should be regular. Generally it was the inferior workmen who were most active in stirring up strife between masters and men. It should be a punishable offence for unionists to interfere with the work of non-unionists. "What," asked Mr. Mundella, "are the relations between the masters and men? Are they good?" "They might," was the reply, "be better. There is not so much cordiality between masters and men as there ought to be." At present there is no board in existence in the London building trade for the settlement of disputes, but he favoured the establishment of a board.

Colonel Stanley Bird, the next witness, was asked by Mr. Mundella if there was not a good deal of inferior work done in connection with building in London? Not, Colonel Bird said, when buildings were erected under the control of an architect and clerk of works. "Scamping" was not possible then. It was when houses were built for speculative purposes that "scamping" took place. As a result buildings sometimes after ten or twelve years almost needed to be rebuilt. Colonel Bird objected to a system under which all workmen were reduced to a dead level of wages and of work. Now that the London County Council and other public bodies were undertaking their own building operations, builders would have to give up. It was absurd to say that employers were careless of the lives of their workmen because they were insured against responsibility. *Now-a-days masters did not get half the work out of men that they got thirty years ago.* A man who laid a hundred bricks in an hour a few years ago would now lay only fifty. Perhaps the men had got some advantages from trade unionism, but if so it was at the expense of the public. Confirmatory evidence was given by Mr. G. Grover, Mr. J. H. Bridgman, and Mr. H. J. Wright. Mr. Bridgman, in particular, complained of terrorism by unionists in connection with strikes. Mr. G. Dew appeared for the men's organisation in the building trade, and Mr. F. C. Burton for the carpenters and joiners. Their evidence was simply as to the willingness of the men in the building strike to accept arbitration, and the refusal of the masters to entertain any arbitration until nearly the end of the strike.

* From the Builder.

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.

(Continued from page 244.)

The Parochial Registers.

BAPTISMS.

From Augt. to Dec. 1728.
1728.

- Augt. 1. James, s. to Alexander and Ismy Welsh, beyond ye Ship building.
2. Samuel, s. to Patrick and Elizabeth Clerk, New Market.
3. John, s. to Bryan and Elizabeth Dolan, Abbey-street.
4. Catherine, dau. to Marks and Mary Butterly, Ormond Key.
4. Edward, s. to John and Margret Nowlan, New Market.
5. Henry, s. to Henry and Catherine Neale.
5. James, s. to Hugh and Mary Smith, Pill-lane.
5. Rose, dau. to Anthony and Mary Ryan, Bolton-street.
8. Christopher, s. to Richard and Margret Brown, Little Green.
8. John, s. to Richard and Eliz. Rook, Church-street.
10. Ann, dau. to Patrick and Mary Brady, Church-street.
11. Michael, s. to Rich. and Catherin Foster, Church-street; *g.f.*, Owen Bruen, *g.m.*, Eliz Smith.
11. Was christened Elizabeth Mulligan, Cloysters.
12. Mary, dau. to John and Mary Hickey, Ballibough-lane.
13. Elinor, dau. to James and Elizabeth Casey, Mary's-lane.
14. Wm., s. to James and Elinor White, Mary's Abbey.
16. Mary, dau. to Christ. and Mary Johnson, Church-street.
18. Henry, s. to Bryan and Mary Mugomery, Loftis-lane.
18. Margret, dau. to James and Mary Mullin, Coles-lane.
18. Robert, s. to Patrick and Elizabeth Teag, Fisher's-lane.
18. Catherine, dau. to Patrick and Mary Morgan, New Market.
18. Robert, dau. [*sic*] to Thos. and Ann Murphy, Liffce-street.
18. Simon, s. to John and Mary Macoloch [*? M Cullagh*], Abbey-street.
20. George, s. to Geo. and Catherine Brennan, Chapel.
21. Mary, dau. to George and Mary Lee, New Market.
21. Robert, s. to John and Ann Macoy, Bolton-street.
22. Jane and Mary, daus. to Patrick and Mary Duffy, White Lyon-court.
23. Bridget, dau. to Matthew and Ann Kelly, Drumcondra-lane.
23. Mary, dau. to Edmond and Mary Coady, Charles-street; *g.f.* Patrick M'Carroll, *g.m.*, Margrett Lawyer.
24. Ann, s. [*sic*] to Terrence and Catherine M'Carthy, Turnikin-lane.
24. Barthw., s. to Barthw. and Catherine Cowin, King-street.
25. Catherine, dau. to John and Margret Sharky, Proper-lane.
25. Elizabeth, dau. to Michael and Catherine Sweetman, Glosmonagh [Glasmanoge].
25. Thady, s. to Patrick and Mary Davis, Ormonds Key.
25. Thos., s. to Phillip and Mary Shee, Swift's-roo.
25. Mary, dau. to Thomas and Mary Kelly, Frapper's-lane.
25. Bartle, s. to James and Margrett Byrne, The Inns.
25. Margaret, dau. to James and Mary Bryan, Inns.
26. Mary, dau. to John and Mary Taylor, Turnikin-lane.
26. Izabella, dau. to Thomas and Jane Dillon, Stafford-street; *g.f.*, Patrick Meyler, *g.m.*, Mary Dillon.
26. Michael, s. to John and Rose Humphreys, Church-street.
26. John, s. to Patrick and Sicilly Duff, Prohy's-yard.
27. Michael, s. to Wm. and Mary Cody, Charles-street.
29. Elinor, dau. to Richard and Mary Paris.
29. Ann, dau. to Richard and Mary Ellis, Strand-street.
30. Margaret, dau. to Wm. and Catherin Farril, Charles-street.

30. Jane, dau. to James and Christian Toole, in the New Market.
Sept. 1. James s. to James and Margaret Maginnis, Mary's-lane.
1. Daivy, s. to Wm. and Margaret Cassedy, Church-street.
1. Michael, s. to Patrick and Magdalen Martin, Liffy-street.
1. Anthony, s. to Thos. and Ruth King, Ship buildings, Strand.
2. Andrew, s. to Wm. and Mary Boylan, Church-street.
2. Elizabeth, dau. to John and Mary Kelly, Little Strand-street.
2. Rose, dau. to Andrew and Margret Kelly, Swift's-roo.
3. Robert, s. to Barthw. and Margaret Duff, New Market.
4. Mary, dau. to James and Catherine Jennet, Boot-lane.
4. James, s. to George and Elinor Connor, Frapper-lane.
4. Bartholomew, s. to Bartw. and Rose Marly, New Market.
5. Patrick and Mary, s. and dau. to Henry and Elizabeth Carroll, Church street.
5. Mary, dau. to James and Elizabeth Lynch, New Market.
7. Elinor, dau. to Michael and Mary Bryan, Loftus-lane.
8. Catherine, dau. to Wm. and Ann Delvin, Frapper-lane.
8. Mary, dau. to Wm. and Elizabeth Carroll, Arran-street.
8. Elizabeth, dau. to Thos. and Elizabeth Plunkett, Pill-lane.
10. Thos., s. to James and Mary Bruton, Charles-street.
10. Mary, dau. to John and Ann Brady, Drumcondra-lane.
11. Catherine, dau. to John and Margaret Hill, Boot-lane.
12. Terence, s. to Miles and Ann M'Daniel, Peticoat-lane.
12. Catherine, dau. to Walter and Jane Kelly, Cloysters.
12. Barthw., s. to Barthw. and Mary Duff, Strand-street.
14. Mary, dau. to John and Catherine Carty, Cherry-lane.
15. Mary, dau. to John and Margrett Cosgrave.
15. Samuel, s. to Samuel and Margaret Coats, Bolton-street.
15. James, s. to Mary [*sic*] and Ann Nowlan, Dromcondra-lane.
15. Jane, dau. to James and Mary Smith, Swift's-roo.
15. Elinor, dau. to Patrick and Mary Ennis, Fisher's-roo [*? lane*].
15. Rose Frances Malpas, daughter to Mr. Christopher Malpas, of Rochestown, was christened in Anne-street; James Hussy, Baron of Galtrim, *g.f.*; Mrs. Rose Malpas, *g.m.*
16. Mary, dau. to John and Joan Walker, Liffce-street.
16. Henry, s. to William and Sarah Wilson, Church-street.
16. Edmond, s. to James and Mary Geohegan, Pill-lane.
16. Michael, s. to Mr. Henry Dillon, of Belgard, was christend in Abby-street; Mr. Garret Aylmer, *g.f.*; My Lady Bath, *g.m.*
17. Susanna, dau. to Wm. and Mary Flood, Drogheda-street.
18. Rose, dau. to James and Mary Maglue, Church-street.
18. Dennis, s. to Darby and Margaret Lawlor, Strand-street.
20. Michael, s. to Morgan and Catherine M'Daniel, Caple-street.
20. Elinor, dau. to Thos. and Elinor Sheridan, Ormond Key.
21. Catherine, dau. to Michael and Jane Tum-mings, Pill-lane.
22. Ann, dau. to Nicholas and Margrett Clinton, Mary's-lane.
22. Joseph, s. to Will. and Margret Boyse, Moon-street.
22. Joan, dau. to John and Margret Slater, Swift's-roo.
22. Wm., s. to James and Margret Linnard, Dromcondra-lane.
22. Elinor, dau. to James and Elizabeth Hadsor, Dromcondra-lane.
22. Bridget, dau. to Murtach and Rose Doran, Swift's-roo.
22. Mathew, s. to Owen and Jane Corcoran, Peticoat-lane.
22. Ann, dau. to Charles and Elinor Keenan, Cherry-lane.
25. Martha, dau. to Bryan and Joan Connelly, Church-street.

25. Elinor, dau. to James and Elizabeth Dulany, Loftice-lane.
26. Edward, s. to Willm. and Margret Kerns.
26. Michael, s. to Edwd. and Elizabeth Doran, Fisher's-lane.
27. Will., s. to Cornelius and Margret Lehy, Swift's-roo.
27. Elizabeth, dau. to James and Mary Doyle, Church-street.
27. Margery, dau. to Thos. and Margaret Garry.
27. Laurence, s. to Felix and Sicily Toole, Strand.
28. Michael, s. to Francis and Mary Baker, Liffce-street.
29. Bridget, dau. to Patrick and Elinor M'Kinni, Boot-lane.
29. Mary, dau. to Peter and Catherine Lamb, Pill-lane.
29. Michl., s. to Michl. and Mary Plunkett, Boot-lane.
29. Michael, s. to Peter and Margaret Walsh, in Mass-lane; *g.f.*, John Allen; *g.m.*, Mrs. Butterworth.
29. Ann, dau. to John and Ann Meyler, Church-street; *g.f.*, Valentine Meyler; *g.m.*, Mrs. Elizabeth Meyler.
22. Michael, dau. [*sic*] to David and Ellison Sheghan, Tuccar's-roo; *g.f.*, Thomas Lee; *g.m.*, Mrs. Mary Carroll.
29. Richard, s. to Edwd. and Margret Fallin, Ormond Key.
Oct. 2. Catherine, dau. to John and Margret Mathews.
2. Elinor, dau. to John and Margret Divin, Church-street.
2. Elinor, dau. to Richard and Ann Neale, Swift's-roo.
4. John, s. to Neale and Mary Love, Jew's-ally.
4. Michael, s. to John and Mary Fling, Charles-street.
6. Rose, dau. to Andrew and Mary Fannin.
6. Francis, s. to Patrick and Catherine Dowdall, Pill-lane.
6. Else, dau. to Thos. and Mary Ryan, Pill-lane.
6. Was christened LEONARD MACNALLY, sone to Leonard and Mary MacNally, Mary's-lane; *g.f.*, George Usher; *g.m.*, Alice Martin. [LEONARD MACNALLY was father to Leonard McNally, the eminent Barrister of '98 notoriety, of whom hereafter. His godfather, George Usher, was an eminent merchant of Dublin, who resided in Church-street, and died in 1758. He was the eldest son of Patrick Usher (by his 1st wife, Elizabeth Creagh), and grandson of George Usher, merchant, of Dublin, and his wife Alison, dau. to Ald. Patrick Gough, of Dublin (and his wife Alison Piers, of Tristernagh, who m., 2ndly Nicholas Dowdall, of Drogheda), and sister of Ignatius Gough. (See "Usher Memoirs" by Rev. W. Ball Wright, M.A., p. 32.)]
6. Jane, dau. to James and Mary Dunn, Fisher's-lane.
7. Honora, dau. to Dennis and Mary Dulany, Ormond Key.
7. Easter, dau. to Richard and Ann Connell, Church-street.
7. Else, dau. to Patrick and Mary Cullin, Drumcondra-lane.
8. Ann, dau. to Patrick and Elinor Connor, Church-street.
8. Wm., s. to Wm. and Catherine Cooly, Pill-lane.
9. Charles, s. to James and Sarah Connor, Mary's-lane.
9. Andrew, s. to Patrick and Hanna Donnelly, Mountrath-street.
10. Mary, dau. to John and Ann Heferuon, Mary's-lane.
10. Patrick, s. to John and Francis Hiny, Swift's-roo.
11. Michael, s. to Simon and Mary Byrn, Drumcondra-lane.
13. Susana, dau. to Lauchlin and Susana Murtagh, Boot-lane.
13. Andrew, s. to Garret and Catherine Purcell, Liffce-street.
15. Frances, dau. to James and Jane Landy, Pill-lane.
17. Teresa, dau. to Daniel and Elizabeth Mul-lally, Pill-lane; *g.f.*, Mr. Morris, *g.m.*, Mrs. Kiernan.
18. Samuel, s. to Saml. and Susanna Wallis, Strand.
18. William, s. to Mathew and Anne Kelly, Loftis-lane.
18. Wm., s. to Martin and Mary Burk, St. Mary's-lane; *g.f.*, Redmond Wade, *g.m.*, Mrs. Webb.

20. Owen, s. to James and Ann Roork.
 20. Sarah-Teresia, dau. to Arthur and Sarah Plunket; *g.f.*, James Plunket, *g.m.*, Mary Plunket. In Great Britain-street.
 23. Jenico Seagrave, son to Esquire Seagrave, *g.f.*, my Lord Gormanstown; *g.m.*, my Lady Alice Talbot. In Abby-street.
 24. Elizabeth, dau. to James and Mary Halfpenny, Arrian-street.
 24. Ann, dau. to James and Ann Morgan, Liffey-street.
 24. Michael, s. to Michl. and Ann Carrol; *g.f.*, Master Grace, senior; *g.m.*, Mistress Carrol's sister.
 24. Mary, dau. to John and Ann Darsy, Bolton-street; *g.f.*, James Grimes, *g.m.*, Mrs. Catherine Daisy.
 24. Robert, s. to Patrick and Mary Magrane, Church-street.
 24. Ann, dau. to James and Patrick [*sic*] Murphy, Drogheda-street.
 24. Richd., s. to Wm. and Ann Nally, Pill-lane.
 24. Ann, dau. to Wm. and Elinor Coffy, Liphystreet.
 25. Simon, s. to Mary [*sic*] and Ann Taylor, Drumcondra-lane.
 25. Mary, dau. to Isaac and Elizabeth Garner, Bolton-lane.
 25. Bridgett, dau. to Patrick and Elizabeth Vessell, Frapper-lane.
 25. Owen, dau. [*sic*] to Hugh and Ann Deering, Mary's-lane.
 26. John, s. to Patrick and Elinor Magan, Church-street.
 27. Sarah, dau. to Patrick and Sarah Gallagher, Abbey-street.
 27. Con, s. to Cornelius and Clare O'Neale, Church-street.
 28. Maurice, s. to Walter and Ann Dungan, Arran-street.
 29. Patrick, s. to Richd. and Margrett Hickey, Drumcondra-lane.
 31. Patrick, s. to James and — Branigan, Pill-lane.
 Nov. 1. Jane, dau. to James and Margret Whitin, Market.
 1. Andrew, s. to John and Mary Humes, Market.
 2. Margrett, dau. to Patrick and Catherine Carr, Loftice-lane.
 3. Maurice, s. to John and Elizabeth Treasy, Church-street.
 3. Jane, dau. to Peter and Ann Murry, Mary's-lane.
 4. John, s. to James and Margrett Hogan, Church-street.
 5. John s. to James, and Margrett Tallen, Cherry-lane.
 5. Elizabeth, dau. to Richard and Mary Byrne, Malborough-street.
 8. Mary, dau. to Edward and Mary McDonnell, in the Chappel.
 8. Catherine dau. to Edward and Mary MacDaniel, Chappel.
 8. Andrew, s. to John and Mary Welsh, Chapel.
 8. Mary, dau. to Charles and Margret Cullin, Chappel.
 8. Mary, dau. to John and Margret Dwier, Boot-lane.
 9. Ann, dau. to John and Mary Murphy, Bolton-street.
 9. Catherine, dau. to Michael and Mary Branan, Little Green.
 10. Was christened Martha Horish, daughter to Patrick and Cathren Horish; *g.f.*, Mr Theobald Dillon; *g.m.*, My Lady Dillon Bellew, King's-street.
 11. Jane, dau. to Edward and Mary Maly, Inns.
 11. Ann, dau. to John and Mary Murphy, Market.
 13. Reynolds, s. to John and Mary Hawkins, Bolton-street.
 13. Henry, s. to Daniel and Mary Roork, Mary's-lane.
 13. Hugh, s. to John and Ann Evers, Pill-lane.
 17. Ann, dau. to James and Christian Warrick.
 17. Sarah, dau. to John and Rose Robinson, Mary-street.
 17. Hugh, s. to John and Ann Kennedy, Charles-street.
 17. Peter, s. to James and Ann Lynham, Capel-street.
 17. Ann Murphy, bapt.; *g.f.*, James Fitzwilliams; *g.m.*, Ann Murphy.
 18. Laurence, s. to James and Elizabeth Moran, Caple street.
 19. Daniel, s. to John and Jane Carroll, Ormond Key.
 19. Thomas Bushee, s. to Thomas and Mary Bushee; *g.f.*, Esquire Wakely, *g.m.*, Miss Weldon, christened in Abby-street.
 20. Thraction, s. to Patrick and Rose Neale, White Lyon-court.

25. Ann, dau. to Patrick and Ann Geoghegan, Church-street.
 25. Jane, dau. to Bryan and Juggy Maly, Arrian street.
 25. Bridgett, dau. to Michael and Catherine Ward, Chapel.
 26. Thomas, s. to James and Ann Connelly, Ormond Key.
 27. Mary, dau. to Owen and Joan Mullally, Chapel.
 27. Andrew, s. to Ettrick and Mary English, Church-street.
 27. Andrew, s. to John and Mary Murry, Bachelor's Walk.
 27. Mable, dau. to James and Mary Mulloy, Mary's-lane.
 28. Elizabeth, dan. to Thady and Margrett Carney, Church-street.
 28. Bridget, dau. to Robert and Catherine Tomnson, Drogheda-street.
 29. Patrick, s. to Thomas and Ann Carny, Cherry-lane.
 29. Simon, s. to Christopher and Catherine Goolden, Mountrath-street.
 30. Letice, dau. to William and Margaret Byrne, Mary's-lane.
 30. Henry, s. to Christopher and Mary Brangan, King-street.
 30. Elizabeth, dau. to Joseph and Elinor Batsford, Drogheda-street; *g.f.*, Samuel Sparks, *g.m.*, Honora Reynolds.
 Dec. 1. Mary, dau. to David and Ann Kelly, Mary's-lane.
 1. Mary, dau. to John and Judith Hand, Frapper's-lane.
 1. John, s. to James and Mary Fling, Abbey-street.
 2. Mary, dau. to Wm. and Mary Doyle, Market.
 2. Susanna, dau. to John and Mary Poore, Mary's-lane.
 3. Margaret, dau. to Laurence and Ann Terrell, Lyphy-street.
 4. Ann, dau. to James and Mary Darsy, Boot-lane.
 4. John, s. to Francis and Mary McLoghlin, Ann-street.
 6. Catherine, dau. to Martin and Margaret Collings.
 7. James, s. to James and Mary Lynch, Mary's-lane.
 7. James, s. to James and Mary Darsy.
 7. James, s. to Patrick and Ann Maguire, Market.
 8. Joan, dau. to James and Margret Lennord, Fisher's-lane.
 8. Mary, dau. to James and Ann Byrn, Swift's-roo.
 8. Henry, s. to Terence and Winefrid McCardle, New Market.
 8. Catherine, dau. to John and Elizabeth North, Charles-street; *g.f.*, Wm. Taylor; *g.m.*, Ann Plunkett.
 9. Andrew, s. to Patrick and Mary Seagrave.
 9. John, s. to James and Mary Hunter; *g.f.*, D. B., [Dionisius Byrne]; *g.m.*, Mary Dowdall.
 9. Mary, dau. to Andrew and Ann Coffee, Tucca's-roo.
 10. Thos. s. to Wm. and Elizabeth Spring, Little Green.
 10. Thos. s. to John and Mary Dodd, Strand.
 10. Ann, dau. to James and Mary Maguire, Tucca's-roo.
 10. Andrew, s. to John and Mary Ennis, Turnican-lane.
 11. Ann, dau. to Darhy and Juggy Moran, Drumcondra-lane.
 11. Catherine, dau. to Richard and Catherine Moore, Coal's-lane.
 11. Peter, s. to James and Mary Andrews, Ormond Key.
 12. Dennis, s. to Andrew and Mary Ryan, Mary's-lane.
 12. Catherine, dau. to John and Mary Cannon, Church-street.
 13. Rose, dau. to Patrick and Catherine Croshy, Chappel.
 15. Thos. s. to Patrick and Mary Bryan, New Market.
 15. Ann Mary, dau. to Loughlin and Elizabeth Frayn, New Market.
 15. Mary, dau. to Nicholas and Catherine Fox, Charles-street.
 16. Rose, dau. to Christopher and Ann Connor, Boot-lane.
 17. Ann, dau. to Edward and Ann Kindally, King-street.
 18. Thos., s. to Patrick and Mary Joyce, Church-street.
 18. Margaret, dau. to Thos. and Ann Quin, Church-street.
 19. Thos., s. to Daniel and Mary Molloy, Strand-street.

19. Mary, dau. to John and Ann Dungan, Drumcondra-lane.
 19. Wm., s. to John and Jane Moore, Mary's-lane; *g.f.*, D. B., *g.m.*, Rose Byrne.
 19. Alice, dau. to Constantine and Ann Burk, Turniking-lane.
 20. Mary, dau. to James and Ann Dillon, Strand-street.
 20. Thos., s. to James and Ann Moore, Mary's-lane.
 20. Winifred, dau. to John and Mary Carty, Bolton-street.
 22. Thos., s. to John and Elizabeth Browne, Broadstone.
 22. Cusack, s. to Patrick and Jane Rooney, Pill-lane; *g.f.*, Edward Arthur; *g.m.*, Tomisane Malone.
 22. Tobias, s. to James and Ann Purcel, Drogheda-street.
 23. Ann, dau. to Wm. and Ann Flood, Halfe Mile House.
 23. Charles, s. to Patrick and Sarah Meconly, Caple-street; *g.f.*, William Molyneaux, *g.m.*, Margaret Byrne.
 23. James, s. to John and Ann Dogherda.
 23. George Aylmer was christd ye 22, son to Garrat and Mary Aylmer; John Latin, *g.f.*, Mrs Dillon, of Belgard, *g.m.*
 27. Bridget, dau. to Thos. and Bridget Singon, Market.
 27. John, s. to Thomas and Mary Fitzgerald, Mary's-street.
 28. Edmond, s. to Patrick and Ann Smith, Mary's-lane.
 29. Anthony, s. to Anth. and Elizabeth Purvis, Bradooge-lane [now Halston-street].
 29. Ann, dau. to John and Mary McGuee, Boot-lane.
 29. James, s. to Andrew and Mary Doran, Fisher's-lane.
 29. John, s. to Patrick and Mary Brue, White Lyon-court.
 30. James, s. to Richd. and Susanna Moor.

MARRIAGES.

1728.

- Augt. 4. Jeffry Gernon and Ellinor Lynch, Mary's-lane.
 6. Luke Reily and Martha Hareford.
 8. Laughlin Kenny and Mary Buttery.
 11. Thomas Macquee and Ann Daniel, Church-street.
 18. Michael Smith and Mary Coghran.
 23. William Gauran and Margrett Fling.
 23. Dennis Wogan and Catherine Sawyer.
 25. Richard Connolly and Mary Kelly.
 25. Nicholas Maloone and Margrett Farrell.
 28. John Kindlan and Mary Byrne.
 30. John Betagh and Jane Carroll.
 Sept. 1. Thomas Meis and Ann Fanning; witness present, John Ecclin, Leonard and Mary MacNally, John Mooney.
 2. Patrick Neal and Margaret Macknamee.
 4. Peter Matthews and Mary Reily.
 8. Richard Doran and Rose Doran.
 11. Richard Lewis and Catherine Duff.
 15. Dennis Roork and Elizabeth Farrill.
 16. Felix Tevill and Mary Connolly.
 17. Mathew Maloone and Sarah Hart.
 22. Daniel Moran and Elizabeth Otway.
 23. Michael Higgins and Elizabeth Flood.
 23. Patrick Madden and Mary Harinton.
 29. Oliver Dowdall and Catherine Devlin.
 29. William Neale and Mary Farril.
 30. John Cary and Mary Jones.
 Oct. 2. John Kennedy and Elizabeth Murry.
 6. John Dunne and Mary Fitzgerald.
 24. Ambrose Ferral, Brewer, of Thomas-street, was married to Ann Dillon, eldest daughter of Mr. Theobald Dillon, and Christian White, alias Dillon, merchant, on the Inns, in the said Mr. Dillon's house.
 Nov. 9. Nicholas Carroll and Margrett Murphy.
 24. Hugh McCagh and Mary Fitzpatrick.
 Dec. 1. Robert Maxwell and Judith McCardin.
 1. Walter Dungan and Margaret Mitchell.
 8. Laughlin Fling and Mary Murphy.
 9. Richard Lynch and Mary Lynch.
 15. Edward Murphy and Mary Ward.
 29. Richard Cochlan and Mary Brennan.

NOTES AND ADDITIONS.

Baptisms (see Dec. 21, 1726).

FAMILY OF BELLEW.

PART I.

The ancient family of Bellew,—frequently written Bedlow,—derives its origin from Normandy. One of the name accompanied William the Conqueror in his expedition to England; and it is presumed that on, or soon

after, the arrival of the English in this kingdom, they came over here, where they settled, and obtained large possessions in Meath and Louth counties.

In the reign of Edward I., John de Bellew *m.* Laderina, youngest of the four sisters and co-heiress of Peter de Bruce, from whom descended :

JAMES BELLEW, of Bellewstown, in County Meath, and Curragh, near Dundalk, in County Louth, who *m.* Ismay, *dau.* to Richard Dillon, of Allentown, ancestor to the Earls of Roscommon, had, with other issue :

RICHARD BELLEW, his heir, who was ancestor to SIR JOHN BELLEW, of Bellewstown, who, 13th April, 1563, was appointed a Commissioner for the preservation of the Peace and good Government of the county of the town of Drogheda, and County of Louth, during the absence of the Lord Deputy Sussex, in his expedition against Shane O'Neil, in the north part of the kingdom. He was seized of the manors of Bellewstown and Duleek, with many other lands and hereditaments, in the County of Meath, "which, by recovery and other valuable assurances in the Law," were conveyed to the use of himself and his wife, "Dame Jenete Sarsfield, for life, and after to the use of him and his heirs."

In 1584 he and his wife Ismay built the bridge of Ballycurry, in Westmeath, where their arms, and an inscription (importing them to be the founders, and desiring the prayers of all passengers), remained down to the close of last century. He also built a tomb in the churchyard of Duleek, with this inscription :—

"This Monument was Erected the fourth Day of June, 1588, by the Appointment, and at The Charge of SIR JOHN BELLEW, Knight, And DAME ISMAY NUGENT, his Wife, for their Burial, unto Whom God be merciful."

And under the east window of the south aisle of that Church, is fixed in the wall a kind of brown marble stone, with his coat armour, much defaced, and these words :—

"J. B. I. N. This Window was Made by SIR JOHN BELLEW, Knight, and DAME ISMAY NUGENT His Wife, in the Year of Oure Lord 1587."

Sir John Bellew was twice married; his 1st wife was Jenet, *dau.* of — Sarsfield; and his 2nd, Ismay, *dau.* of — Nugent, who were both dead at the time he made his will (30 Oct., 1598), and his issue were three sons, the eldest of whom,

SIR CHRISTOPHER BELLEW, of Bellewstown, Knt., *m.* Catherine, *dau.* of Sir William Sarsfield, of Lucan, widow of Sir Robert Dillon, of Riverstown, and *d.* 20 May, 1610, leaving issue by her, who *d.* 21 Dec., 1615, four sons and two *daus.* :—I. John, his heir; II. Robert, of Donamore, County Meath, *m.* Ann, *dau.* of — Field, of Painstown, County Louth, *d.s.p.*; III. Patrick; IV. Walter, both *d. unm.* (1). Ismay, *m.* (1st) Sir Wm. Taaffe, of Smarmore; (2ndly) —; and 3rdly, Sir Terence O'Dempsey, 1st Viscount Clanmalier; and (2). —, *m.* — Brett, of Drogheda.

SIR JOHN BELLEW, of Bellewstown, the eldest son, was seated also at Castletown, Co. Louth; *b.* 1572; *m.* Amanet, sister to Patrick Barnewall, of Shankhill, Esq.; and making his will at Castletown, 11 Dec., 1626 (pr. 18 April 1627), orders his body to be buried in the Parish Church of St. Kevan of Duleek, in the burial-place of his ancestors, in the chapel, called *Chapel Bellew*. He leaves £100 for masses for his soul; £100 to discharge all his debts; £60 to defray the expenses of his funeral; and leaves the charges of his Month's mind and twelve Month's mind, to be defrayed out of his goods in Castletown. He bequeaths to his son-in-law, Hugh Magenis, his best horse, with his best furniture, and £3, to make him a ring, whereon should be engraved Bellew's and Barnewall's arms. To his daughter Mary, the same sum, to make her a like ring. To his son and heir Christopher, his bason and ewer,

two silver potts, his best salte, a jug, a wine cup, an aqua-vitæ cup, and three of his best spoons, always to remain in the house; and after other bequests and legacies, appoints his sons Executors, and his eldest son, his brother Robert, and his brother-in-law Patrick Barnewall, overseers.

He left issue six sons and four daughters: viz.,

- I. Christopher, his heir, of whom presently.
- II. Thomas
- III. William
- IV. Michael
- V. Patrick
- VI. Mathew

left no issue.

1. Mary, *m.* Hugh Magenis, Viscount Iveagh (son of Sir Arthur Magenis, 1st Viscount Iveagh, so created by Patent, dated at Westminster, 18 July, 1623, *d.* 20 May, 1629, by his wife Sarah, *dau.* to Hugh O'Neil, Earl of Tyrone) by whom she was mother to Arthur, 3rd Viscount Iveagh, who was *bur.* at St. Catherine's Church, Dublin, 1st May, 1683.

2. Ann; 3. Elizabeth; 4. Jane.

SIR CHRISTOPHER BELLEW, who succeeded at Bellewstown, represented the Co. Louth in the Parliament of 1639, but forfeited his estate on account of the troubles in 1641; although, it appears, that he accepted a very ample Commission, dated 30 Oct. 1641, empowering him to execute Martial Law, to pardon offenders at discretion, and to command in chief such forces as should be raised by him, and armed by the State for the defence of the county of Louth.

He *m.* Frances, *dau.* to Mathew (Plunket), 5th Lord of Louth (who *d.* 19 July, 1629, by his wife Mary, *dau.* to Sir Richard Fitzwilliam, of Merrion,) and dying about the time of the Restoration of Charles II., left issue by her who survived him, three sons, (1.) Sir John Bellew, created Lord Bellew; (II.) Matthew of Rogerstown; and (III.) Thomas.

SIR JOHN BELLEW, the eldest son, was honoured with Knighthood by King James II., who also by Privy Seal, dated at Windsor, 19 July, and by Patent at Dublin, 29 Oct., 1683, advanced him to the peerage by the title of Baron Bellew of Duleek: after which he called into the Privy Council, and sat in his parliament. The King also appointed him Lord Lieutenant of the County of Louth by commission, dated at the Castle of Dublin, 27 Jan., 1689, at which time he commanded a Regiment of Foot in his army; for which services he was outlawed in the County of Meath, 16 April, 1691, and forfeited his estates, which were afterwards re-granted, under the Articles of the Treaty of Limerick. In the Act to hinder the reversal of several outlawries, it is provided (9 Will. III.) "that nothing therein contained should extend to confirm the Outlawry, or Attainder of Sir John Bellew, late Lord Bellew, Baron Duleek, father of Richard Bellew, Esq., for any crime committed since 5 Nov., 1688."

His lordship *m.* (Articles of marriage, dated 28 Nov., 1663), Mary, eldest *dau.* and co-heir to Walter Bermingham* of Dunfert, in the County of Kildare, Esq., and dying,

[* Lady Bellew, and her sister Anne, who *m.* Maximilian O'Dempsey, Lord Viscount Clanmalier, were joint heirs to the Manors of Dunfert, Meylerstown, and other lands in the County of Kildare, to the value of about £1,500 a-year; and the Lady Bellew, in Michaelmas Term (16 Charles II.) joined with her husband in levying a fine of her share of the estate, and in 1667, in a deed, declaring the uses thereof, by which, after their decease, the same was to descend to the issue male of both their bodies, remainder to the issue female, remainder to the heirs of her husband. And the Lady Clanmalier having no issue, an agreement was made between her and her sister, that the whole estate should be so settled, as that it should come to Richard Lord Bellew and his heirs. Accordingly, in 1703, Lady Clanmalier made a conveyance of her part to his lordship for life, after her decease, remainder to his 2nd son and his heirs male, he taking the name and arms of *Bermingham*, with several remainders over. And, in 1707, his lordship obtained an act of Parliament, passed 24 Oct., for settling the said estate on him and his heirs, and for raising £3,000 thereout for the portion of Mary, Lady Athenry, niece to the said Lord Clanmalier. His lordship also procured another act of Parliament to pass in 1709, to enable him to sell part of his estate for the discharge of incumbrances, and to settle the residue on himself for life, with remainder to his Protestant issue subject to an enlargement of the jointure of his wife, the Countess of Newburgh. The Lady Clanmalier above mentioned was living in Oxmantown (in the parish of St. Michael) in 1697, in whose house lodged the Rt. Rev. John Dempsey, Bishop of Kildare, her kinsman, who was then in hiding, and reported himself to be the parish priest of St. Michael's. (See IRISH BUILDER, 15th August, 1892).]

12 Jan., 1692, left issue by her who *d.* in 1694, two sons, and one *dau.* :

I. Walter, his heir.

II. Richard, heir to his brother.

1. Margaret, *m.*, 1684, Thomas, 4th Earl of Westmeath, and *d.* 1700, leaving issue two sons and two *daus.*

His lordship and his lady lie buried under a large tomb, in the middle of the south aisle of Duleek Church, adorned with their coat armour, and having this inscription. —

"This Tomb hath been repaired and The Vault made by DAME MARY BIRMINGHAM Of Dunfert, wife of JOHN LORD BELLEW, Who was shot in the Belly in [at the Battle of] Aughrim Fight the twelfth [23 N. S.] July, 1691. As soon as he found himself able to undertake A journey, he went with his Lady to London, Where he died the 12th of January, 1692. He was laid in a vault in Westminster, till the Arpal following, his Corpse was brought hither."

WALTER, 2ND LORD BELLEW, commanded a troop in the Duke of Tyrconnell's Regiment of Horse. He *m.*, Sept., 1686, Frances-Arabella, eldest *dau.* to Sir William Wentworth, County of York, sister to Thomas, late Earl of Strafford, and Maid of Honour to Queen Mary, wife of K. James II.; and dying in 1694, left issue by her, who *d.* in London, 16 March, 1723, one son, and two *daus.* : Thomas, *b.* 1704, *bur.* at St. Mary's, Dublin, 26th June, 1709; (1) Mary, *m.*, 1st Nov., 1702, Denis Kelly, of Aghran, Co. Galway; (2) Frances-Arabella, *b.* 1694, *m.* — Horncastle Esq., *d.* 1732.

RICHARD 3RD LORD BELLEW, heir to his brother, being a Captain in the Earl of Limerick's Dragoons, was outlawed and attainted for his service to King James II.; but, 12th April, 1697 (pursuant to the Queen's warrant from Kensington, 18th March), he received a pardon under the Great Seal for all crimes committed against the Crown before 1690, and reversing the outlawry of himself and his father, on account of his being comprehended within the Articles of Limerick. He conformed to the Protestant Church of Ireland in 1705, and took his seat in the House of Peers, 7th July, 1707; and, 25th Jan., 1713 had a pension of £300 a-year granted by Queen Anne, which was continued by K. George I. He *m.*, May, 1695, Frances, youngest *dau.* to Francis, Lord Brudnell, eldest son to George, 3rd Earl of Cardigan, and widow of Charles Livingston, 2nd Earl of Newburgh. With her his lordship received a dower of £17,000, and dying, 22nd March, 1714, had issue by her, who *d.* 22nd March, 1735, two sons, and one *dau.* :

I. John, his successor.

II. Walter, *d.* young.

1. Dorothea, *m.* (1st) Gustavus Hamilton, of Redwood, King's County, Esq., uncle to the second, and father of the third Viscount Boyne, by whom she had issue two sons and five *daus.* She *m.* (2ndly), William Cockburn, of Redford, King's County, Esq., who also left her a widow in 1743. She *m.* (3rdly), Joseph Dixon, Esq., Captain of a Foot Company.

JOHN, 4TH LORD BELLEW, *b.* 1702, took his seat in Parliament, 7 Sept., 1725, and *m.* Dec., 1731 (1st), Lady Anne Maxwell, *dau.* to William, Earl of Nithsdale, in Scotland, and by her, who *d.* of a fever in London, 3rd May, 1735, and was *bur.* at Hendon Church, Middlesex, had one son Edward, born 3rd April, 1735, *d.* Sept. following; and one *dau.*, Mary-Frances, *b.* in Italy in 1733. His lordship *m.* (2ndly), Mary, only *dau.* to Maurice Fitzgerald, of Castle Ishin, County Cork, Esq., and widow of Justin, 5th Earl of Fingal, and also of Valentine, 3rd Viscount Kenmare, and by her, who *d.* in London, 19 March, 1741, had two *daus.* His lordship *m.* (3rdly), the Lady Henrietta Lee, 4th *dau.* to George-Henry, Earl of Litchfield, and by her, who *d.* of the small pox, 30 April, 1752, in London, had a son and *dau.* (twins), *b.* March, 1750, and both *d.* young. He *d.* in 1770, when the peerage became extinct.

Arms—Diamond, fretted, topaz.

Crest—On a wreath, an armed arm embowed and brandishing a sword, all proper.

Motto—"Tout d'en haut."

To be continued.)

NOTES ON TREES.

In a Hampshire paper of 12th ult., it is recorded (says the *West Sussex Gazette*), that the present Bishop of Chichester, son of a former rector of Chilbolton, Hants, planted a tree, when he was seven years old, in the gardens of Chilbolton Rectory, which is now in vigorous growth. It is not stated what the tree is, nor whether it is commemorative of patriotism. At any rate, 1809 was a great year for the critical battles of Corunna and Talavera, the last of which, 27th July, 1809, brought out the great force of Wellesley, afterwards Duke of Wellington, and restored the renown of English arms, though with heavy loss. Wellington received his title of "Lord Wellington" from Talavera. With regard to choicer trees, Miss Agnes Martelli draws attention to an interesting compilation by Colonel George Cadell in the *Gentleman's Magazine*: The Colonel says that it is to the Romans we in England owe whatever skill we may possess in forestry. The tallest trees in the world are found in the gulleys of Victoria, one of which is 471 ft. high. The beech trees of Hesse Nassau contain nearly 8,000 cubic feet of timber per acre. The first larches grown in Scotland were planted at the end of the last century. Nearly every county in England has its favourite oak, the largest of which is the Cowthorpe, of Yorkshire, which has a circumference of 80 ft. The Carnoch ash, in Stirlingshire, is 31 ft. in circumference. The Tortworth chestnut, in Gloucestershire, was used to identify the boundary in the year 1135. It is said to have been the first tree that was ever planted in Great Britain by man. The largest cedars in England are at Clumber. They measure 27 ft. in circumference at 3 ft. from the ground. There is a yew tree at Crowhurst, in Sussex, 33 ft. in circumference. The "Crawley" elm is 61 ft. in girth. The largest heech tree is to be found in Cornbury Park, Berkshire, and the largest sycamore is at Cobham Park, with a circumference of 26 ft. A villager in Oxfordshire lived to see trees, which he had himself planted, attain a height of 125 ft. The silver fir of Roxheath has a girth of 22 ft. 4 in. at 3 ft. from the ground.

THE INDUSTRIES OF DAMASCUS.

THERE are a considerable number of important industries in Damascus, of which the principal is the weaving industry. Her Majesty's Consul at that place says that there are some 2,000 hand looms for cotton, silk, and wool weaving. The cotton looms turn out calico curtains and divan covers, stockings, sheets, girdles, surcingles, the stuff used for the long coats (*gumbaz*) worn by Moslems, and for the *izars*, or cloaks which cover the native women from head to foot. A hand loom can turn out thirteen yards of striped cotton cloth per diem, but the average day's work does not exceed seven yards. Taking 250 working days in a year, as there are numerous holidays, the total output for 1,000 looms would amount to 1,750,000 yards per annum. The cotton looms are constantly at work, not so the wool and silk looms; but yet the manufacture of *cottoni* (which is a stuff made of silk and cotton for upholstery), of puggarees, curtains, tassels, *izars*, and handkerchiefs, all of silk or silk and cotton mixed, occupies a large proportion of the working classes. There is also a small amount of wool stuffs manufactured. Rope-making also gives employment to a large number of persons, as also ornamental harness and saddle-making. Harness for mules and camels is made of wool leather, and ornamented with beads and shells. There are also many dyeing establishments. These are principally engaged in dyeing cotton cloth with indigo, for the clothing of the poorer class, but there is also a considerable business done in fancy colours for curtains, *izars*, &c. Other industries are hammered iron work, copper work, ornamental brass work, and

mother-of-pearl inlaid work. The two latter are chiefly supported by travellers, who pay exorbitant prices, and who have spread the taste for these articles in foreign countries, with the result that last year about £9,000 worth of brass trays and inlaid tables were exported.—*Soc. Arts Jour.*

THE LAW OF LIGHT.

THE case of Corbett v. Jonas, reported in the Law Reports for this month, is of more than usual importance, and deserves to be read carefully by all who are interested in the law of light. It was not an action by plaintiffs who had a prescriptive right to light, but by plaintiffs, who, having purchased a building, claimed a right by grant. There is a maxim that a man cannot derogate from his own grant, and this principle applies as much to a person who takes under the original grantor as to the grantor himself. Therefore, although in the present case the defendants were not the original grantors, they may be regarded as though they were. So far as regards what may be called ordinary light, there is nothing new to be said on the point, the law is too clear, and has been too long settled to admit now either of comment or argument. But in the present case the question as to the right to extraordinary light arises, for the plaintiffs claimed to have light sufficient to conduct their business as wool-brokers, which appears to require a quantity of light above the ordinary amount, which extraordinary quantity, it was proved, was interfered with by the defendants' buildings, though there was excellent light for ordinary purposes of general business. The Judge held that without some special circumstances he could not imply any grant of more than ordinary light. The original grantees were architects, and not persons engaged in any special trade, such as wool-brokers, or to take the Judge's example, jewellers. "A grant to a jeweller," he said, "would imply light of a different intensity and quantity from that to a trader whose business did not require the same amount of light." The doctrine appears a somewhat dangerous and obscure one, since it is not easy to say what trade does or does not require an extraordinary amount of light. But these decisions appear likely to increase litigation, and it is questionable whether a clear and uniform rule by which in all cases a grant shall carry a right to an ordinary and reasonable amount of light, neither more nor less, would not in the long run be the most just and advantageous to the community. But it is hopeless to expect any such rule to become law until a code of the law of light is passed by Parliament similar to that which was enacted in the case of bills of exchange.—*Builder.*

NOTES OF WORKS.

THE BALLYBOT COURT-HOUSE, NEWRY, was described, half a century ago, as "an old but commodious building." During the interval it has, however, tolerably well answered its purpose for the hearing of legal cases. Recently, under the able direction of Mr. R. H. Dorman, County Surveyor for Armagh, and from plans prepared by him, improvements in the structure have been effected, which in the future will be found of great convenience to those whose business demands their attendance therein. For the inconvenient stairway in front, there has been substituted a new entrance at end facing Monaghan-street, with an approach by a number of granite steps 8 ft. in width. A new waiting-hall has been provided, and improved lighting has been obtained by the insertion of large windows filled with plate glass. Improved sanitary arrangements, as well as those for heating and ventilation, have not been forgotten. The work was satisfactorily carried out by Mr. Alex. Wheelan, builder, of Canal street.

MISCELLANEOUS.

POSTAL NEWS.—The Postmaster-General's report for the past year shows the number of postal orders issued during the 12 months to be 52,659,545, value 20,563,750 0s. 6d., and commission received thereon as £228,936. The origination of the postal order system is, we are informed, due to Mr. Norris, ex-M.P. for Limehouse, and not to the late Mr. Chetwynd, C.B. It may be interesting to those who have not studied postal affairs to recall, as an analogous case to that of postal orders, the particulars of the invention of the "adhesive postage stamp." This—attributed to a high postal official—was actually proposed or originated by Mr. James Chalmers, of Dundee. His proposal was approved for adoption by a Treasury Minute of December 26, 1839, and was the cause of the success of the penny postage system.—*Invention.*

The Board of Works Department, London, have decided to improve the signal light upon the Clock Tower of the Houses of Parliament, erected by Messrs. Edmundson and Co., in the year 1872, by placing it at a somewhat lower elevation than at present, and by surrounding it with dioptric apparatus of the type used in lighthouses, so that it may shine out on all sides. The contract for the work has been given to the London house of the firm of Edmundson and Co., and it is expected that the new light will be in its place in time for the opening of Parliament, next month.

FINE WEATHER.—Now is the time for Painting all outdoor work that requires protection from the weather. All who intend Painting should write to CARSONS, Bachelor's Walk, Dublin, for their new price list with patterns of a hundred shades of Paint, all prepared so that any person can apply them. The simplest, cheapest, and most durable to be had.

Illustration.

THE MCARTHUR HALL, BELFAST.

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The Irish Builder.

NOTICE.

All communications for the literary department of this journal should be addressed to "The Editor."

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indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

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THE HISTORY, PAST AND PRESENT,
 OF THE
Roman Catholic Church and Parish of St. Michael.

AMONGST THE CONTENTS WILL BE FOUND—

Early History of the Parish—one of the oldest in Dublin.
Official Reports from St. Mary's and St. Paul's Parishes.
The Broad Stone.
The Priory of the Dominicans.
The Granary of St. Mary's Abbey—a Recent Survey of it.
Newgate Prison, the Sessions House, and Sheriffs Prison.
An Old Burial-ground on "The Abbey Green."
The New Fish and Vegetable Markets, correctly described.
The Secular and Regular Priests in SS. Michael's, Paul's,
and Mary's Parishes, in the year 1697.
Mary's-lane Chapel, and Dr. Cornelius Nary's labours therein.
Various Works Written by him.

Succession of Parish Priests in St. Michael's, 1604 till 1809,
Romance of the Gormanston Peerage—Rev. Dr. Dixon
conveys the minor to Paris
Antique Statue of the Virgin and Child.
Parish Priests from 1814 to 1890.
Benedictine Convent in Channel-row.
Charter of new Benedictine Nunnery in Dublin, by Jas. II.
The Dominican Nuns come from Galway.
Convent of Poor Clares.
Dame Mary Butler's visit to Whitehall.
Mass-lane, alias Golblac-lane, or Lucy-lane (now Chancery-
place).

This work has been reprinted from recent issues of "The Irish Builder," after being carefully revised.

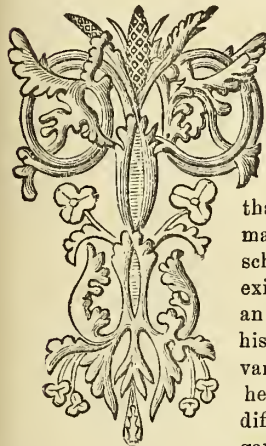
A beautiful Plate of the New Facade in Dalston-street is given, from a drawing by the Architect, G. C. Ashlin, R.I.A.

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THE IRISH BUILDER.

VOL. XXXIV.—No. 792.

IRISH
ECCLESIASTICAL ANTIQUITIES.

the Round Towers, with the relics of churches and monasteries existing in the country, show, that a real and remarkably original school of architecture existed in Ireland, at an early period of her history.¹ Although various theories have been advanced by different writers regarding the origin and uses of the Round Towers—many assigning to them an antiquity too remote, and referring them to Pagan times. However, they have been invariably found in connexion with the remains of old churches; or even when these have wholly disappeared, it is known from our Irish records, that churches had stood in immediate proximity with them. That the Round Towers were used for belfries in a primary sense, now seems to be the generally received opinion of all sound historical investigators.²

On the western Continent as in the oriental countries,³ the primitive churches and monasteries were exceedingly simple in design and construction. In those ages, when the cross had scarcely emerged from the Catacombs, even in Rome were to be seen buildings with little architectural embellishment, ceilings without vaults, facades without columns or buttresses. The earliest basilicas had few ornaments, nor do they appear to have been provided with the most artistic images or paintings.

This primitive and severe form of Church architecture was replaced by the Byzantine and Lombardic. In turn, it inspired that magnificent Gothic development, which after the period of Charlemagne introduced the ogives, the towers, the vaulted ceilings, the fluted stone columns, the pinnacles and flying buttresses, with all that complicated and delicate tracery of roofs and windows, illustrated in so many noble existing Cathedral, Parish, and Monastic churches.⁴

Alluding to our ancient Irish Churches, Dr. George Petrie says that they have little in them to interest the mind or attract regard as works of art. However, as he adds, "in their symmetrical simplicity—their dimly-lighted nave, entered by its central west doorway, and terminated on the other side by its chancel arch, affording to the devout worshipper an unimpeded view of that brighter

sanctuary, in which were celebrated the divine mysteries which afforded him consolation in this life and hope in the next—in the total absence of everything which could distract his attention—there is an expression of fitness to their purpose, too often wanting in modern temples of the highest pretensions; as the artless strains sung to the Creator, which, we may believe, were daily hymned in these unadorned temples, were calculated, from their simplicity and artlessness, to awaken feelings of deep devotion, which the gorgeous artificial music of the modern cathedral but too rarely excites, even in minds most predisposed to feel its influences, and appreciate its refinement. In short, these ancient temples are just such humble, unadorned structures, as we might expect them to have been; but, even if they were found to exhibit less of that expression of congruity and fitness, and more of that humbleness so characteristic of a religion not made for the rich, but for the poor and lowly, that mind is but little to be envied, which could look with apathy on the remains of national structures so venerable for their antiquity, and so interesting as being raised in honour of the Creator in the simplest ages of Christianity."⁵

In Ireland our early Irish Churches seem, almost without exception, to have been plainly designed, and to have been of small dimensions. Ornate tracing and graceful proportions are often observed, however, with a certain solidity of construction. But our ecclesiastics, kings, chiefs and tribes appear to have had resources much too limited at command for the erection of grand cathedral or abbey churches. Even, after the Anglo-Norman invasion, the style of Gothic building introduced, in general, contrasts rather unfavourably with the fine British and continental ecclesiastical structures.

In England, Scotland, and Wales are still to be seen types of our most ancient Irish churches, and erected likewise by Irish missionaries. On the west coast of Cornwall lies Perranzabuloe, otherwise called St. Perran in Sabulo, or St. Perran-on-Sands. This place took its name from an Irish hishop called Saint Piran, thought to have been Bishop over the ancient see of Saighir, King's County, in Ireland. Perranzabuloe is situated about half way between Padstow and Camborne, or about fifteen miles from each. This very ancient church of the Irish missionary St. Perran, was almost buried from view, and there was a great danger of its being swallowed up, by the drifting sands. However, the interest excited by its antiquity led to a movement for its preservation; and after its restoration in our own times, it was reopened for Anglican worship, in a very public manner, Dr. Benson, then Anglican Bishop of Truro, and afterwards translated to the See of Canterbury, preaching the inaugural sermon. In it he remarks, that if St. Augustine arrived there in Cornwall, he should not have had to make his way through crowds of heathen people, who wondered what he was come for; there, in Cornwall, he should have found people to meet him with the full knowledge of the Gospel, worshipping day after day, as well as on Sunday after Sunday in that little church. There, too, St. Augustine should have found himself among a people, who knew and loved the Gospel which he taught.

BOOKS RECEIVED.

The Mechanics of Architecture: a Treatise on Applied Mechanics, especially adapted to the Use of Architects. By E. Wyndham Tarn, M.A., author of "The Science of Building," &c., &c. Illustrated with 125 Diagrams. London: Crosby Lockwood and Son, Stationers'-hall Court. 1892.

THE author of the work before us is already well known by numerous valuable publications from his pen, and which from time to time have been noticed in our columns. This last one fully sustains the reputation as an author which former works have secured for him. In "The Mechanics of Architecture," the author tells his readers that he 'has endeavoured to supply a want which is felt by many architects, by bringing together, in a small compass, all that it is essential for the architect to know upon this subject, and to give in as simple a form as possible an outline of the principles upon which all good construction should be based.' To the theories and examples of Roofs, Arches, Vaulting, and Domes (they being subjects in which the author is especially interested), he calls particular attention, and to which, throughout his latest work, he has given great prominence. He has also worked out numerous examples, showing the practical application of every theory and formula, in order that the reader may never be at a loss to understand how to use them.

The work is divided into twelve chapters, amongst the more important topics discussed therein being—Resistance of Materials to Stress—Deflexion of Beams—Strength of Pillars—Roofs and Trusses—Arches—Domes and Spires—Effect of Wind on Buildings—Buttresses, Shoring, Retaining Walls and Foundations.

The book, which extends to nearly 400 pages, is well printed in clear, readable type, the diagrams are well executed, and the entire, we need hardly state, reflects great credit upon the publishers, Messrs. Crosby Lockwood and Son.

THE "LEWIS" LINK.

WE are asked to draw the attention of our architectural patrons to an "Improved Coupling for Lightning Conductors," for which Mr. Lewis, of Great Winchester-street, London, has obtained a patent (No. 16,641), and which he has named "The Lewis Link." According to the specification, a copy of which lies before us, "This invention relates to the couplings which, in lightning conductors, serve to connect the top-rod (sometimes called the elevator-rod) to the copper-tape, and it has for its object to provide a device by means of which bad contact which is liable with couplings now in use, owing to the two parts which constitute the coupling not fitting properly, and to negligence on the part of the workman or otherwise, may be avoided. According to this invention, the coupling, instead of being made in two pieces as heretofore, is made in a single piece, and having sockets at its upper and lower parts, the former being cylindrical and screw-threaded for attachment of the top-rod, while the latter is of flattened and of dovetail or wedge shape for retaining the tape, which is secured to the coupling by passing it through the socket and out laterally, and then doubling the end of the tape on itself, so that when the tape is drawn back, its end is jammed in the socket, and it is effectually prevented from becoming detached, the strain on the tape assists materially in maintaining good contact."

¹ See William Edward Hartpole Lecky's "History of England in the Eighteenth Century," vol. ii., chap. vii., p. 302. London, 1878, 8vo.

² In Viollet Le Duc's "Dictionnaire de l'Architecture," Tome vi, there is an interesting Article "Lanterne des Morts," which presents a theory of a peculiar character, in reference to the Round Towers of the world. This noble work is comprised in ten volumes.

³ See some curious illustrations and interesting descriptions on this topic in the Hon. Robert Curzon's "Visits to the Monasteries of the Levant," Part iii., chaps. xvii. to xxviii.

⁴ See Capefigue's "Charlemagne," Tome i., chap. iii., pp. 52 to 55.

⁵ See "The Ecclesiastical Architecture of Ireland, anterior to the Anglo-Norman Invasion," &c., Part ii, sect. iii., sub-sect. 1., pp. 191, 192.

HISTORIC MEMORIALS OF LEIX.

(Continued from page 248.)

WHILE General Preston was encamped before Athy, Dr. Owen Shiel and his wife Catherine—a daughter of old Captain Tyrrell—held possession of Woodstock, a strong castle, picturesquely situated on the west bank of the River Barrow. A message was sent to the lady that she should surrender the castle to the General, still retaining possession of all that belonged to her, both within and without; so that after military occupation, she should be allowed to live quietly in the castle or in such other place as she deemed proper. However, he received for answer from the gentlewoman, that she never could think of betraying the trust reposed in her by General O'Neill, and that she would not surrender the castle to his enemy.

Whereupon, Preston commanded a trumpeter to approach the second time to desire a promise of its surrender on the taking of Athy. The lady answered, that neither before or after such an event should he get her castle but by main force. Preston still tried to urge her to consent by sending three captains, such as he conceived to be well-wishers to her husband and herself; yet, still their persuasions had no result, and they returned with such news to the General. A fourth time he wrote a letter to her, setting forth his tender care for her safety, and desiring her to consider his former conditions as honourable and advantageous, while requesting her answer in writing by a proper messenger. Then the gentlewoman wrote a short and a round answer, not to spare herself, were there not a man in the castle, but that the castle would be held by women alone even to the last extremity. This letter she sent to the General by a young man, Hugh Shiel, a nephew to her husband. No sooner had Preston received this reply, than, irritated beyond measure, he caused the bearer to be apprehended, and two cars to be brought within sight of the castle. He then sent a trumpeter to Mrs. Shiel that the General had sworn to hang the young man who brought the letter, if the castle were not immediately surrendered. Again, the resolute and brave woman replied, if Preston proved so base and tyrannical as to execute an innocent messenger, contrary to the laws of nations and of arms, she would not even ransom him at so dear a rate, as to become a traitor and perfidious to General O'Neill, who had entrusted her to keep the castle. "Nay," said she, "tell the General from me, I swear upon my credit, if my very husband and all the children I bore him were to be hanged on such a score, I would not hinder it, as being more tender of their good name than of their lives, when tainted with the ugly stain and character of treason and perfidy, should I comply with his desire." Thoroughly baffled in his intentions, again Preston swore he would hang young Shiel, and then commanded the provost marshal to perform his office. However, the major officers dissuaded their General from an act of inhumanity contrary to honour and the laws of arms. Whereupon, he desisted, but the young man was fast bound, as if he were a malefactor, and guarded, while he was thus marched with Preston's army to Athy.*

Meantime, while General O'Neill was away in Munster, engaged on warlike operations, such as the taking of Nenagh in Upper Ormond, and afterwards of Birr, in the King's County; he had left four foot companies to garrison Athy, and to keep the country around it in possession. These were commanded by Captain John O'Hagan, the Governor, Captain Con Roe O'Neill, Captain Daniel McCana, and Captain Daniel O'Mellan. The latter had been left in charge of Ballilehan Castle, but he was ordered by the Governor to burn it, and repair with his

company to Athy, where all assembled were about 200 foot soldiers to guard the town. The Governor and his company kept the castle, which covered the River Barrow, and against it the batteries of Preston were directed from the opposite side. Although several breaches were made in the walls, yet Preston soon found he could effect nothing against the garrison unless his ordnance were passed over the Barrow. Accordingly, this being done, the Dominican monastery, which had been imperfectly fortified, was then assailed, the friars and some soldiers within it constituting the defenders. The Governor had sent despatches to General O'Neill for succour, and the latter immediately dispatched Phelim McTuhill O'Neill with 200 men to his relief. Soon they arrived at Rehan, and the Governor had notice of their coming. Meantime, Preston had directed his assault against the monastery, situated on the rising ground some little distance from the river; when to gain time for the arrival of O'Neill, and to ascertain the enemy's force and position, O'Hagan sent a drummer to arrange for a parley, and as if to capitulate on terms. While Captain McCana was admitted and employed on that business, Preston had some suspicion of the relief advancing. Whereupon, he despatched McThomas with his regiment of horse and one of infantry to make good the only fordable passage on the river between Rehan and Athy. He also ordered his soldiers to attack the monastery, and soon they broke into the lawn and garden; but, they were fiercely repelled from the monastery, showers of stones descending from the roof on their heads.

While this assault was pending, Phelim McTuhill O'Neill and his force moved onwards to the Barrow ford, although the flood was then great. Tying their clothes to their necks, and carrying their arms high over the water, which reached their breasts, the soldiers marched in a dense body, some even swimming; but, all got over safely, and on delivering their first volley, McThomas' horse fled, while Captain O'Hagan fell upon the rear of Preston's infantry with 60 musketeers. The rout was then complete. Immediately Phelim McTuhill O'Neill directed his march against the monastic assailants, and fell among them with great fury. Soon they fled in a panic, several being killed in the garden; about 60 were drowned in their flight across the Barrow. About 140 were killed, while several officers and privates were captured; moreover, arms and ammunition fell into the hands of the victors. Besides, some of their own prisoners were released, and Preston ingloriously drew off his troops to the camp, about half a mile distant from the battle-ground.†

THE BELFAST
NATURAL HISTORY MUSEUM.

RECENT DONATIONS.

At the meeting on the 6th inst. of the Belfast Natural History and Philosophical Society, the hon. sec. (Mr. R. M. Young) announced the following recent donations to the Museum:—Miss S. M. Thompson—specimen of ripple-marked sandstone, from Scrabo; Mrs. Fleming—one pair of sandals; Miss A. Gage—bird skins and eggs from Rathlin Island; Mr. L. L. Macassey—glaciated limestone boulder, found at the filtering beds, Oldpark; Mr. James Thompson, J.P.—silver button of the Fox Club; Mr. Thomas Workman, J.P.—specimens of shells and lepidoptera, Singapore, Egypt, and Madagascar; Mr. Oshorne—a case of tea from Thibet, the first brought to this country; Mr. William Allaby—stuffed specimen of the kittiwake gull with three legs; Mr. R. J. Welch—24 platinotype photos of Irish antiquities; Mr. John Hamilton—specimens of horned toad, chameleon, green tree-frog, &c.; Mr. J. H. Davies—two specimens of the saw-fly (*sirex gegas*); Mr. James Thompson, J.P.—case of stuffed birds, corncrake and young, to illus-

trate life history of the species; Major Maxwell, D.L.—case of stuffed animals, marten and prey, mounted to show life history; Mr. Robert Patterson—fresh specimen of the whiting pout; Mr. W. J. McKinney—a column of jointed prismatic basalt from Killead; Mr. R. K. Sinclair—a specimen of Gulf weed, taken out of the Gulf Stream; Mr. James Thompson, J.P.—(for library) Wilson and Geikie's "Life of Professor Forbes" and Hardy's "Correspondence of Dr. Johnston of Berwick-on-Tweed"; Mr. Hugh Hunter, Ballymagarry—ancient water pipe; Mr. W. Praeger—fine collection of geodes from the mountain limestone, Keokuk, Iowa, U.S.A.

LABOURERS' COTTAGES—
"JERRY" AND OTHER CLASS—
IN ABBEYLEIX UNION.

AT Tuesday's meeting of the Guardians of Abbeyleix Union (Lord De Vesci in the chair), a number of questions in connection with the cottages already built were discussed.

The Clerk said the Cullenagh division had already spent £108 more than they had estimated for, and this sum was over and above what they had got from the Board of Works. It would have to be paid out of the rates, and would mean an increase of 1s. 8d. in the pound over the ordinary rate.

Mr. Thomas Delaney was accepted as contractor, at £3s 5s., for the repair of one cottage, recently built, in Dysartgallen electoral division.

Mr. Delaney also tendered for the repair of six cottages in Castletown division, at £4 10s. each.

Mr. Corcoran said he understood that, in the case of the cottage repaired at Cullenagh, the end wall was proposed to be plastered, but he believed such was not the case. The occupants complain that the rain is coming in over the windows in all these cottages!

Mr. Borrowes (clerk of works) reported that one of the cottages in Castletown division was falling! The front wall wanted to be underpinned, and the cracks filled up!

Mr. Corcoran said that they had bought this lesson dearly, and they should not give these contractors any more contracts. He believed it would be better to read out the names of the contractors to the board in taking contracts in future. There were parties building cottages who were not fit to build a pigsty!

The Chairman said if this report was true, they should never employ this contractor again!

Mr. Borrowes said there was an old grip in front of the house, and when that sunk the ground sunk under the houses. There should have been a good concrete foundation under it!

Mr. Leigh—Don't you think the engineer and the Local Government Board inspector were very much to blame for this?

Mr. Corcoran—Our inspector passed them first, and the Local Government Board inspector came as a superior man to pass them then. He actually inspects the sites.

Col. Poe—He has done so.

Mr. Corcoran—His hobby appears to be a lough of water.

Col. Poe—The sites are very badly chosen.

The Chairman said there was no use in plastering this cottage until this was done. In the meantime they had better accept the contract for the other five in this division, and call the attention of the Local Government Board to the other one.

Mr. FitzHerbert—Would it not be better to apply to the Local Government Board to send an inspector to see all the defective work in the union?

Mr. Corcoran—But I would add, a "different" inspector—the same gentlemen won't alter his report.

Clerk—The Local Government Board might call on their inspector for an explanation.

The Chairman said it was the fault of their own man. What they were doing now was new work that they did not put into the

* See The Aphorismal Discovery of Treasonable Faction, Book iii., chap. xxxiii., pp. 254, 255. John T. Gilbert's "Contemporary History of Affairs in Ireland from 1641 to 1652," vol. i., part i.

† See *ibid.*, cap. xxxiii., xxxiv., pp. 225 to 262.

original specification. They need not suspend the other cottages on account of this one.

It was ordered that the Local Government Board be requested to call upon their engineering inspector for an explanation as to why he passed those cottages in such a defective way; and also to send down a different inspector to inspect all the cottages in the union. It was decided to accept Mr. Delany's contract for the repairs of the remaining five cottages.

The Clerk said the expenses under the Labourers' Act in Castletown division amounted to £750, including £90 for the abortive schemes. This was £194 over what they had estimated for, and the first thing that should be considered in making a new scheme was the resources of the division. This debt would mean something like 1s. 4d. in the pound extra on the division.

Mr. M'Mahon—You cannot exceed 1s. in the pound.

The Clerk said that was so, but the guardians had power to extend it over a number of years. There were six cottages already built in Castletown, and it is proposed to build five more now.

SOME PROBLEMS OF TOWN AND CITY DEVELOPMENT.*

AFTER a few introductory remarks, the author said the subject of open spaces might be considered more a sanitary or a surveyor's question than one for architects; but that was hardly so, as the extension of building generally created the necessity for open spaces, and therefore new buildings should be designed with regard for open spaces. Modern practice, until the last few years, had been too much the opposite. In the extension of any large city, architects and public authorities should show more consideration for the surroundings and requirements of the population, and should work in accordance with an approved plan for the future development of such city. A great enemy to any such beneficial development had been the land-grabber who, having purchased land in the outskirts, planned as many streets as possible for the sake of the ground-rents. It might be said that this did not affect architects, but he considered it was within the power of architects to advise or influence public bodies, and to so direct public taste, that enactments might be passed providing for the development of cities in accordance with a recognised and wholesome scheme. Good main thoroughfares, with ornamental and recreative open spaces at convenient distances between them—the minor streets being sufficiently wide—were to be desired. Many might exclaim that the attempt would improve picturesqueness out of the streets and produce monotony, but it was not inevitable; the main avenues should be lined with buildings worthy of architects, the adjacent streets be healthily and brightly finished, and intermediate and diversified recreation grounds be provided. In certain cities regulations existed to prevent the building of dwellings outside certain limits until the intervening spaces were filled up in accordance with an agreed upon scheme. Such stringent regulations might at first frighten those who looked upon so-called natural developments alone as being beautiful, but that was an open question. A square or rectangular development, as of American cities the author thought, was unnatural, the tendency in all cities being for the traffic to pass and repass upon lines radiating from the centre where the principal business was conducted. The impression given by such radial development was far from unpleasant. It had been suggested that districts should be allotted for labouring classes. Mr. Street considered the separation of the classes neither healthy nor natural.

In laying out a district it was better for the health of the dwellers in the main avenues than in the minor streets adjacent the buildings should be less in height than those in such avenues, the air at the back of the higher buildings being open to the circulation of currents at a low level, and not so stagnant and unhealthy as when the space was enclosed on all sides by lofty buildings. In laying out open spaces the dank, circumscribed and "prisony" look general to London squares should be avoided; and the provision of large parks, stiff, flat and uninteresting (to repeat, said Mr. Street, the words used by the author of one paper read at the Congress of Hygiene), was not at all what he intended; with intelligence a wild space could be transformed to the purposes of a park with great success. At the Congress it had been proposed that before further building was permitted around a congested district a zone of clear space should be provided, and that additions beyond should be in the form of picturesque suburbs; the effect, however, would be to still further augment the value of land at the centre and to create differences of value of contiguous plots of land to such an extent that it might be advisable to expropriate property in such land and invest in the State, which should lease and use it for the benefit of the nation. Railways were not to be forgotten, and the author thought that for the different main lines to come to, and round, the city, but not through the city, was better than to have a central railway station. The author had been informed that the consideration of possible developments of cities was wholly visionary, but that was hardly a correct view. The continental representatives at the Congress of Hygiene approached the subject with much lighter hearts. Herr Lechner, of Buda Pesth, thought the best plan was to pull down the old town and build an entirely new one in its place; while Herr Stuhnen, the city architect of Cologne, had urged the establishment of a comprehensive building plan, and had stated that in any future extension of Cologne, 5 per cent. of the land would be reserved for parks, another 5 per cent. for plantations in streets and open places, and of the remaining 90 per cent. 60 per cent. would be given to buildings and 30 per cent. to streets. Mr. Street had prepared a sketch showing a type of what might be considered the natural development of a city, the earliest condition being a settlement of a mercantile community upon the bank of a navigable river. As the settlement tended first to spread along the bank, the early form would be that of a portion of an oval with the two centres parallel to the bank, and from that nucleus the town would increase in curves parallel to the original oval, but with roads at convenient intervals leading towards the centre, while provision for open spaces or lungs could be made. Having quoted 45 Vic., cap. 14, sec. 14, with reference to air-space round buildings, Mr. Street said it would strike any one that the provision of practically a strip of open space, 10 ft. wide, at the rear of a building, while it might be sufficient for some buildings, would be manifestly inadequate if the building was of very great height, and, in his opinion, any regulation in regard to open space should have reference to the height of the buildings. The revised regulations, he thought, might be that no building whatever should hereafter be erected of a greater height than the width of the street, and that every building in the rear thereof should have a strip of land belonging to it of a minimum width equal to one-fourth the height of the building; the height of the one-story building to be allowed in the open space should also be limited, 12 ft. to the eaves being the extreme limit. By the London County Council (General Powers) Act, 1890, no building was to be of greater height than 90 ft., and in the Draft Suggestions for a new Building Act, generally assented to by the Institute, that maximum height was reduced to 75 ft., and might, he thought, be further reduced with advantage. Under those suggestions,

when streets 50 ft. wide ran in parallel lines, and the buildings were 40 ft. deep, there would be two 40 ft. front buildings, and two 12 ft. 6 open spaces; the distance between cross-streets being 105 ft., or 150 ft. from centre to centre. One great blot on that arrangement, however, would be that houses in the main thoroughfare would hinder the access of air to the space at the back of the houses on the cross streets, and therefore there should be a minimum width of 25 ft. between the backs of houses in the main road and the sides of those in cross-streets. The Model Bye-laws recommended a minimum width of 25 ft. for all houses of a height of 35 ft., or more, and if that were generally adopted air-space around buildings would be liberally provided for. With reference to street improvements the width of 40 ft. seemed to be fixed for subordinate developments, and in some thoroughfares recently constructed the width of 70 ft. had been adopted. Subways should be constructed under all main streets, and the several gas, water, telegraph and telephone companies paying rent for the space occupied by them would practically repay the cost of construction. Wood pavement he considered hardly an unmitigated blessing, while if asphalt were not so resonant it would be difficult to conceive of a better paving. Having alluded to the desirability of getting rid of sky-signs, and of a law to limit the size of the lettering of names upon or above shop fronts, Mr. Street turned to the question of dwellings for the labouring classes, and emphasised his previous remarks on the want of wisdom in separating the classes, and deprecated the erection of large block dwellings. It had been proved at the late Congress that London, far from being overcrowded, did not accommodate one-eighth of the number of people that was possible on a similar area, as four hundred persons could be housed in block buildings on one acre; at present the proportion was 54.4 per acre, and the author thought if the erection of lofty blocks was at all likely to bring about such theoretical limits, that of itself ought to be a sufficient reason for discontinuing their erection. It was difficult to make subordinate streets slightly and interesting, as the architect was generally the last person the enterprising builder consulted, and any change for the better must come from the superior landlord directing the provision of dwelling accommodation instead of cutting up his land for ground-rents with regard for nothing else. Small tenements might be expensive as compared with blocks, but there might be advantages to counterbalance that of cheapness, and for which the market rate might be higher. A great difficulty was to provide not only light and air but sunshine, and the provision for it should be one of the considerations when laying out small tenements, while to make them pretty or beautiful required more real genius than in dealing with buildings where the expenditure was less restricted.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

THE annual meeting of the members was held at the hall of the Institution, 35 Dawson-street, Mr. Thomas F. Pigott, presiding.

Amongst those present were:—

Messrs. H. A. Ivatt, hon. sec.; B. B. Stoney, LL.D.; J. P. Griffith, James Dillon, Martin Atock, W. H. Mills, Robert Manning, Samuel Geoghegan, Howard M'Garvey, Edward Glover, John Roebford, Robert Cochrane, J. H. Moore, George M. Ross, Henry Johnston, P. A. Shaw, Francis R. Coffey, Robert Leask, A. G. Ryder, W. R. Maguire, Shirley Going, Hamilton Smythe.

A letter was read from Mr. Kaye Parry, M.A., pointing out that the Institution was entitled to be represented on the District Council for the Registration of Plumbers by two members.

Messrs. Dillon and Glover were appointed to act on the council.

Communications were read from the Board

* Abstract of Paper read at Royal Institute of British Architects, on the 5th inst., by Mr. William C. Street, Fellow.

of Directors of the American Society of Civil Engineers, having charge of the International Congress of Engineers to be held in Chicago during the Exhibition. It was proposed that a list of subjects should be discussed by the congress, and the Institution of Irish Engineers were asked to forward the names of such of its members as would probably prepare papers on these subjects, designating with each name the particular subject to be discussed. On receiving this information formal invitations would be issued by the American society.

Mr. Ivatt exhibited a specimen of the Boyer railway speed indicator, an ingenious apparatus for registering the speed of trains.

The result of the ballot for the election of officers was declared as follows:—President, Mr. J. C. Smith; vice-presidents, Messrs. James Dillon and Samuel Geoghegan; members of council, Messrs. Martin Atcock, Edward Glover, William Ross, Joseph H. Moore, W. W. Wilson, Thomas Walpole; associate members, Messrs. William Anderson and J. R. Wigham.

The reading of Mr. Griffith's paper was held over.

NEW FISH AND VEGETABLE MARKETS.

THE new Fish and Vegetable Markets for the north side of Dublin were declared open to public use by the Right Hon. the Lord Mayor and his officials, on the 6th inst. These works do infinite credit to the Corporation, in whose hands they are, and also to Mr. Spencer Hartly (the City Engineer), Mr. W. C. Wilson, and the contractors, Messrs. Wm. Connolly and Son alike. The markets have various entrances, that facing Halston-street being the principal one, ornamented in the Corinthian style, with columns, capitals, and entablature, these being surmounted by two figures representing Justice with the well-known sword, and the other "Honest Trade" holding in its hand a pair of evenly-balanced scales. The effect is heightened by the presence of the City Arms in the centre, this being accompanied by the motto, "Obedientia civium urbis felicitas."

These markets cover an extent of ground measuring 330 ft. long, with a width of 195 ft. The markets are spanned by eight low roofs, which are supported on fifty-six cast iron columns and malleable arched iron girders.

The floor of the markets is divided into ten compartments, all concreted in a permanent manner. Six of these are meant for the sale of fruit and vegetables, and four for the sale of fish. The markets are divided longitudinally and transversely by several leading roads for carts, with an accommodation roadway across each end, for vehicles delivering produce.

The new markets are well supplied with water and a sufficient number of hydrants, and the work of cleansing will be a comparatively simple one, more especially as the gratings connecting with the city sewers are numerous. Accommodation for refreshment purposes for those attending the markets at early hours has not been overlooked.

Mr. Connolly, during the ceremony on Tuesday, handed the Lord Mayor a gold key. He said he had great pleasure in presenting it to his lordship, and thereby giving him, as representative of the citizens of Dublin, possession of the market, the building of which was entrusted to his firm. The inscription on the key indicated the occasion upon which his lordship received it; and though he had during his tenure of office as Chief Magistrate inaugurated many important public works, he (Mr. Connolly) thought it would be admitted that the market which he opened that day would be held to be by no means the least important of these, and to be well worthy of the Corporation. He had no doubt that the new Fish and Vegetable Market would satisfy the requirements of those for whose benefit it was intended, and would contrast favourably with any similar building in the Kingdom.

Messrs. Connolly afterwards gave an excel-

lent luncheon at the Rotundo, to which some two hundred sat down. Several toasts were proposed, and duly responded to.

THE CITY OF DUBLIN HOSPITAL, UPPER BAGGOT-STREET.

WITH this number we present our readers with a perspective view of the new front to the above-named building. This hospital was founded in the year 1832, for the purpose of affording additional hospital relief to the sick poor of the metropolis, and is supported by voluntary contributions. It has during the many years which have elapsed, opened its doors to cases of accident, as well as others. Owing to a large increase in the number of beds required within the past few years, it has been found that an extension of the building is absolutely necessary. The accommodation which will be afforded by the works now embarked in, will have the effect, it is to be hoped, of rendering the "City of Dublin" one of the finest in this city. From our sketch of the elevation it will be seen that the design is quite worthy of such a great establishment.

The front of the building will be composed of red Ruabon brick, and buff terra-cotta, these materials harmonising so well together. For window dressings, strings, &c., &c., terra-cotta will also be used. The whole style may be termed a free treatment of "Victorian,"—or what was called by an architect humorist, "Late and Flat—with a strong turn in the gables towards the Dutch."

The facing bricks and terra-cotta are being supplied by Messrs. Dennis, of Ruabon, while the stock bricks used throughout the building are from the Mount Argus Brick and Tile Works, Harold's-Cross.

The whole is being carried out, from the designs and under the superintendence of Mr. Albert E. Murray (Architect to the Hospital), 37 Dawson-street, by Mr. Samuel Worthington, South Richmond-street.

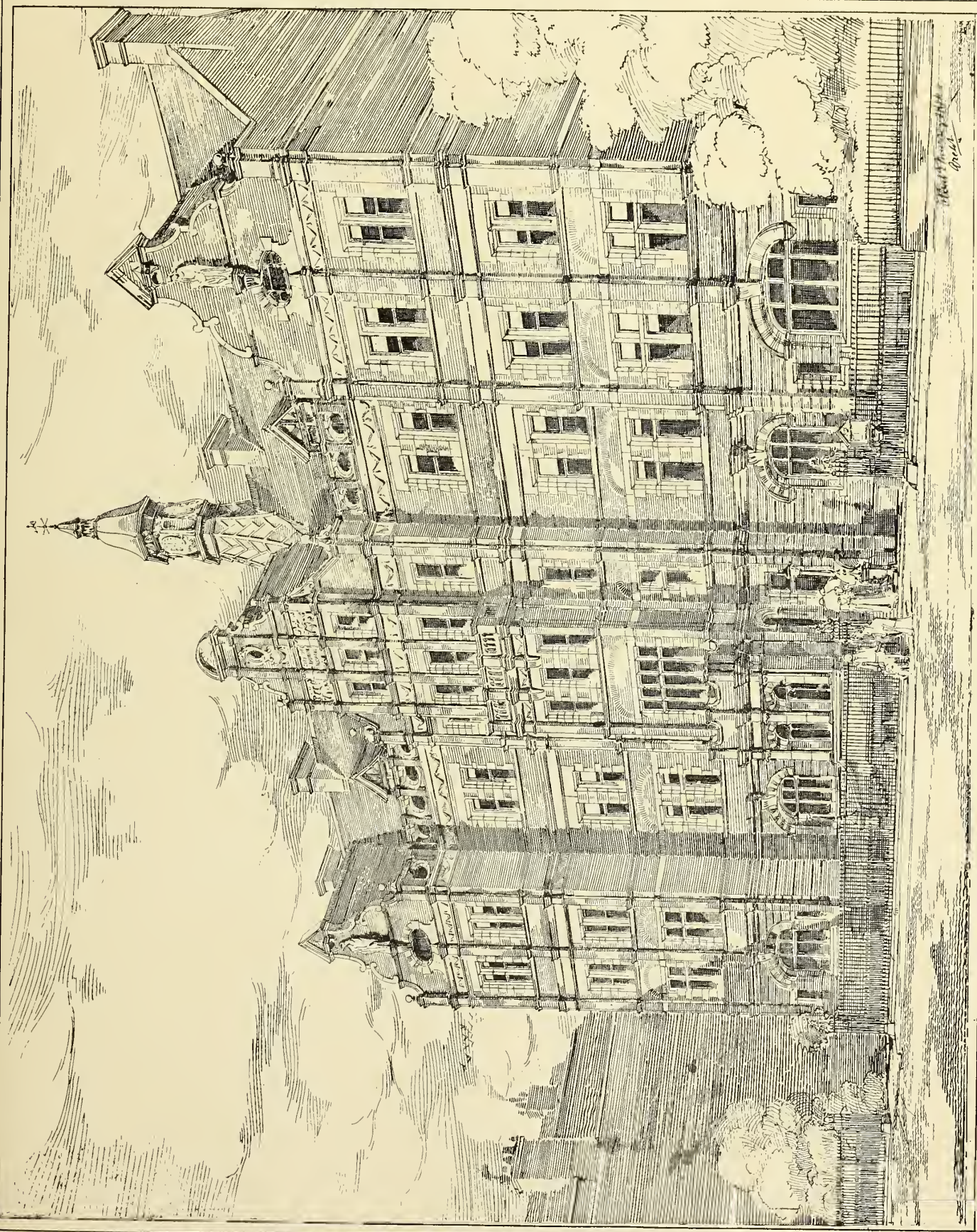
It is gratifying to learn that but little interference, so far, is being experienced in the departmental working of the hospital.

ANTIQUARIAN NOTES AT BUSHFOOT AND BALLYMAGARRY.*

THE romantic scenery of the northern coasts of the County Antrim, particularly at Dunluce and the Giants' Causeway, is familiar to us all, as are also the fine photographs of its salient features, amongst the best being those recently taken by Mr. K. Welch, for exhibition at Chicago by the Belfast and Northern Counties Railway Company. In spite of this familiarity, there are several interesting places which escape the tourist's notice, and are practically as unknown to the public as if situated in Uganda. I have chosen as the theme of my short paper two of these localities, situated near Bushmills, from which they are each about two miles distant. One is the prehistoric settlement on the sandhills of Bushfoot, the other the former mansion of the Earls of Antrim at Ballymagarry, near Dunluce Castle. Bushfoot, as its name implies, is the district on both sides of the mouth of the River Bush, which is here a wide shallow stream, celebrated for its salmon and the large turbines which utilise its water for the electric railway, not to mention the distillery for the production of the barley water associated with the town of Bushmills, not two miles distant. The sand dunes, where the settlements of the primitive folk were located, extend from the mouth of the river to Runkerry Point, a dis-

tance of nearly two miles. I was induced to explore the sand hills after reading the valuable papers by Messrs. Gray, Knowles, Buick, and others, contained in the *Journal* of the Royal Society of Antiquaries of Ireland, descriptive of the settlements of the flint-working men in the County Antrim. At first my efforts to find anything of interest were fruitless, as the hollows formed in the blown sand by the action of the wind, so productive to the explorer at Portstewart and Whitepark, yielded nothing at Bushfoot but sea-worn pebbles and land shells. On questioning Mr. Thompson, the tenant of the farm through which the electric railway passes adjacent to the river, I learned that during its construction several hearth sites were exposed, and pieces of pottery and bone found. The best of these specimens form part of the valuable collection of Miss Steen, Sharvagh, Bushmills. He also pointed out the place where nearly twenty skeletons were found, close to a stone circle which had been covered of late years with blown sand. I made some search at this spot, and dug up the bones of a child, associated with numerous sea shells of an edible kind, pottery, and small fragments of iron slag, indicating that the settlement had been occupied at various epochs. As no flint implements turned up, I directed my attention to another site, on the Causeway side of the Bush, close to the railway bridge, where a cutting through a gravel bed had laid bare a section of the ancient ground surface about four feet below the present sward. On digging into the dark unctuous sand, charged with charcoal, which indicated an ancient hearth, a number of flint flake knives were found, and one or two scrapers. A large part of the site had been already removed, but on excavating into the bank a remarkable feature was disclosed in the form of a low wall of sea-worn stones, arranged evidently around the enclosure of the primitive dwelling to prevent the sand falling in. It would appear as if the level of the floor had been lower than the ground surface by perhaps a foot or more. This was the method used by the primitive Ainus of Japan in the erection of their huts, as will be described shortly. A few yards from this hearth another was disclosed some days after by a fresh removal of gravel from the same hill. It was close to the surface of the ground, and covered with a thick growth of the sea rose. At this juncture the experienced assistance of Mr Wm. Swanston was obtained, and quite a number of fine knives and chips dug out. Mr. Swanston had been at work only five minutes when he turned up a finely-polished greenstone chisel and a fragment of a celt. The coarse sandstone on which they were rubbed I had previously found close by. At a stone's-throw from the spot, and in the direction of the Causeway, are some large holders of trap, weighing considerably above a ton on the average, evidently forming the remains of a stone circle or funeral monument. These stones must have been brought from the sea-shore one-eighth of a mile distant, and placed on the surface of ground already occupied by human beings, as on excavating beneath them unmistakable flint implements were obtained in profusion. In fact, the whole district must have supported a large settlement of the early flint age, and was suited admirably to supply their wants. Deer and other wild animals would abound in the dense forests which covered the face of the country, even in Elizabeth's reign. The Bush swarmed with salmon and the harvest of the sea was at hand, whilst the raw material for their weapons was also easily procurable. In later times these advantages were supplemented by the intercourse which could so easily be carried on along the coast line in the coraghs of skin used still on the Donegal coast. A few words may be of interest on the subject of the probable life led by the ancient people who used these rude flint implements to kill perhaps the great Irish elk or even the huge hairy elephant or mammoth. Attention has been recently directed to the life pursued by existing

* Abstract of Paper read at meeting of the Belfast Natural History and Philosophical Society, on 6th inst., by R. M. Young, C.E., M.R.I.A.



★ CITY OF DUBLIN HOSPITAL, UPPER BAGINBUN STREET. ★

ALBERT E. MURRAY, F.R.S.A., ARCHT.

savages in Australia and Queensland as representative of that of our own aboriginal race; but a nearer parallel seems to be found in the Ainus of Yezo, one of the Japanese islands. This interesting people are the survivors of the primitive inhabitants of the country driven gradually out by the present Japanese. The Island of Yezo lies close to Russian Siberia, and is mountainous, with fertile valleys and rapid streams. It is as well wooded as our country was 200 years ago, and bears, wolves, deer, otters, and hares abounded till recently. The Ainus number about 16,000, and live principally on fish. The latest account of them is from the pen of a missionary (Rev. John Batchelor), who gives them a better character than Miss Bird did some years ago. He affirms that, although they have no belief in the virtue of anyone's soap, a more kind, gentle, and sympathetic people could hardly be found. Physically they are active and robust, although small in stature, as the men average 5 ft. 2 in. in height and the women 5 ft. Their complexions are very dark, unlike the pasty faces of the Japanese. They are now partly a civilized people, as they cultivate some cereals and garden produce, but in many of their habits they recall the traits of their forefathers, who used precisely the same rude flint implements and pottery as those found at Bushfoot. An early Japanese history states that 'they dwelt in caves during winter, and in huts in summer, were clothed with fur, drank blood, flew up the mountain sides like birds, and rushed through the grass like animals. They never remembered favours, but always revenged injuries.' To this day in Yezo there are in many places great numbers of round pits, about 3 ft. deep by 10 or 12 ft. in diameter, and near them are rubbish heaps, which contain pieces of old pottery, polished axes, grinding stones, flint, spear, and arrow heads, and fragments of bone and horn. From the shape of these pits, and the traditions of the Ainus, the huts above them were built in the shape of a beehive hut, of which no doubt they were the original type. They consisted of poles stuck in the earth and bent over till they met in centre, where the ends were tied together. Over the poles were laid bark and grass, and upon this earth was placed to keep out the cold and wet; in fact, they were of the same construction as the Irish creghts, which are mentioned as late as 1692 by Story. The hearth was placed near the centre, and the family slept around it. The present Ainus say these primitive men were dwarfs only 3 or 4 ft. high, of a red colour, and with arms very long in proportion to their bodies. They relate many tales of their elfish nature, similar to the fairy tales in which our own remote ancestors are depicted as little men, living underground in caves (souterrains), and only able to meet with crafty deceits the stronger race which drove them into the wastes and finally extinguished them. Ballymagarry—'The Townland of the Garden,'—was probably so called from the fact that the garden which supplied the family at Dunluce Castle was situated about its centre. The site of the old mansion-house is a mile inland from Dunluce, adjacent to a clachan of cottages at the top of a hill, from which there is a glorious view of the coast line from Malin Head to the Causeway. The little that can be gleaned from its past history is briefly as follows:—It was first occupied as a dwelling-place by John Macnaghten, a nephew of Sorley Boy, and cousin to the first Earl of Antrim. He died in 1630, and was buried at Bonamargey Abbey. The Lord Lieutenant of the county, Sir Francis E. W. Macnaghten, Bart., worthily sustains the ancient family name. Randal, the eldest son of the first Earl of Antrim, was born in 1609, and Richard Dobbs notes in his 'Brief Description of Antrim' (1683), 'The Lord Marquis told me that he wore neither hat, cap, nor shoe, nor stocking, till seven or eight years old, being bred the Highland way. He was a proper clean-limbed man, first married to the Dutchess of Buckingham, and after to Rose, daughter of Sir Henry O'Neill, of

Shane's Castle.' He married the widow of George Villiers, Duke of Buckingham, in 1635, and in 1639 she induced him to build the landward part of Dunluce, as nine of their servants went down with the ruins of the kitchen into the sea in that year. Lord Antrim was imprisoned as a Royalist in 1642 by General Munro, who cessed the estates for the support of himself and troops, in the same way as he had done in Belfast. It was not till 1666 that the Marquis regained possession, by a new patent granted through King Charles II. His first wife died in 1649, and he was married to Rose O'Neill in 1653, who decorated, as tradition affirms, the ceiling of the old church at Dunluce with the various constellations in gold on a blue ground. On his return to the castle the Marquis set about building a more modern residence at Ballymagarry, where the walled-in gardens already existed. As the country was now settled, he followed the example of Lord Arthur Chichester at Joymount, Carrickfergus, and erected a commodious mansion without regard to fortification. In 1671 Oliver Plunket, Roman Catholic Archbishop of Armagh, wrote:—'I was with him for three days at his house at Dunluce; it is a noble building. The palace is perched on a high rock, which is lashed on every side by the sea.' (Hill's 'MacDonnells of Antrim.') When the Marquis died at Ballymagarry, in 1683, he had another house at Glenarm, where the family resided more in the future, making the former a sort of summer residence. In 1750 a local paper contained this item of news:—'Last week the house of Ballymagarry, one of the finest seats of the Right Hon. the Earl of Antrim, was burnt to the ground by the carelessness of servants.' The *Ulster Miscellany*—a very scarce work, printed in 1753, probably in Belfast—contains a poem, entitled 'On the burning of Ballmagarry House, the seat of the Right Hon. the Earl of Antrim.' Bishop Pococke, in his Irish tour, 1752 (recently edited by Rev. Dr. Stokes) thus mentions it—'I took a walk also to Lord Antrim's house, close to Ballymagarry, which was burnt down about two years ago. It is a fine situation, commanding a view of the sea of Enishowen to the north-west, and of the sea-coast to the east. The house was built of the pillar stones of the quarry I have mentioned near, and I saw one of nine sides. Lord Antrim had thoughts of building a house on a spot near, but it is said has altered his purpose.' We visited this historic site on the 29th July last, and were shown everything of interest by the intelligent tenant, Mr. Hugh Hunter. The plan of the place reminds one somewhat of a French chateau, as several wide avenues, walled on each side, and with massive circular gate piers, converge to a centre, occupied by the present farmhouse itself, built shortly after the fire. A part of the old office-houses remains, and bear traces of the conflagration. In the courtyard, between the house and garden, is a large stone trough, previously supplied with water from higher ground a mile distant, brought in the curious pipes, one of which Mr. Hunter has presented to the Museum. A large space is occupied by walled-in gardens, containing very old apple and pear trees hung with lichens, but still bearing some fruit. The traces of a bowling-green on a raised terrace are plainly visible. Perhaps the most conspicuous of the buildings is the circular edifice, with massive buttresses and steeply-pitched roof covered with little slates, which tradition says was the barn, and once used for threshing. I am indebted to Mr. James Boyle, solicitor, the owner of Ballymacree, an adjoining townland, for valuable information on the subject. He also informs me that many more houses formerly stood between the cross-roads and the mansion, and the place was named on old maps of the district 'The Town of Ballymagarry.' At Dunluce, (as both Rev. G. Hill and Rev. J. O'Laverty, P.P., M.R.I.A., show in their histories,) was a town of which a token is sometimes met with, issued by a merchant there. It may be of interest to add that

local tradition says the water pipes already mentioned were made on the spot, of local clay laid over hay ropes, which were burnt out in the kiln. An examination of their interior shows this to be correct. They were also made so as to fit one into the other. It is also told that the early hydraulic engineer who carried out the Ballymagarry water scheme was asked by the marquis what his fee should be for the job? He replied, with unusual simplicity, that he only wished to have a set of the gilt buttons with the family crest which the livery servants wore. His request was granted.

[The paper was illustrated by a large number of excellent photographic views, shown on a screen by limelight.]

A RELIC OF THE VISIT OF GEORGE IV. TO DUBLIN, IN 1821.

THERE has recently come into the possession of an antiquarian friend, a small bannerette, composed of white silk, 16 in. square, and attached to a portion of the original staff, which is surmounted with a bow of white ribbon. The inscription (painted in a black pigment, and shaded off with an imitation of gold leaf) reads thus:—

SAINT
NICHOLAS
WITHIN
HAILS WITH JOY
THE
VISIT
OF HER
KING.

The words are nearly all in very large capitals—particularly the three first and the last.

We fear that "Saint Nicholas Within" would not now turn out on a similar occasion!—"Tempora mutantur."

CORRESPONDENCE.

"THE FAMILY OF BELLEW."

TO THE EDITOR OF THE IRISH BUILDER.

SIR,—In your last issue you gave an interesting account of the Bellew Family. I write to correct a small error. The stone fixed on Ballinacor Bridge, near Delvin, Co. Westmeath, happily remains *in situ*. When the River Deel was sunk, about forty years ago, the old bridge had to be removed. The sculptured stone was, however, preserved, and is fixed in the wall of the present bridge. This stone bears two shields of arms—the first, Bellew and Nugent; the second, Gay and Nugent. Under the first there is the motto, "Dns Videbit"; under the second, "In Deo Spero"; with this inscription:—

TEARME OF S^T JOHN BEDLOW KN
IGHT AND DEM. IS MAY NUGENT HIS WIF.
WIF BEFOR TO THOMAS CAI OF ATHBOY.
MADD THIS BRIDGE IN ANNO DNI 1584
DESIRING AL THAT PASED BY TO PRAY
FOR THEM ALL FHE.

12th Dec., 1892.

W. REYNELL.

TENDERS.

For alterations and additions to Ballymahon Workhouse, for the guardians:—

| | | | | |
|--|----|----|----|------|
| P. Kelly, Longford | .. | .. | .. | £575 |
| C. Mayr, Ballymahon | .. | .. | .. | 565 |
| J. Nally, Carrickboy | .. | .. | .. | 480 |
| B. Hanigan, Granard | .. | .. | .. | 410 |
| M. Dalton, Abbeyshrule, Mullingar (accepted) | .. | .. | .. | 375 |

ST. MICHAN'S
ROMAN CATHOLIC CHURCH,
DUBLIN:
ITS HISTORY, PAST AND PRESENT.

(Continued from page 256.)

The Parochial Registers.

BAPTISMS.

From Jan. 1729 to July 1730.

- Jan. 1. James, s. to John and Mary Rooney, Caple-street.
1. Ann, dau. to Laurence and Diana Fullam, Boot-lane.
 2. Christr., s. to Owen and Rose Rook, Boot-lane.
 5. Ann, dau. to Edwd. and Margaret Mac Cormack.
 6. John, s. to Joseph and Julian Evins, Caple-street.
 6. Wm., s. to Wm. and Mary Reily, Pill-lane.
 6. Wm., s. to John and Ann Moor, Swift's-roo.
 6. Mary, dau. to John and Mary Nolan, Mary's-lane.
 7. Mary, dau. to James and Ann Foly, Charles-street.
 7. Wm., s. to John and Mary Slane, Pill-lane.
 8. Bridget, dau. to James and Margaret Rochford, Stirrup-lane.
 8. Christopher, s. to John and Mary M'Mahon, Church-street.
 9. John, s. to Walter and Rose Bermingham, Mary's-lane.
 10. Patrick, s. to Patrick and Jane Dolan, Petticoat-lane.
 10. James, s. to John and Frances Lynch, Bolton-street.
 11. Mary, dau. to John and Ann Nolan, Boot-lane.
 11. Mary, dau. to John and Margaret Lynch, World's End.
 12. Margaret, dau. to James and Mary Early, Fisher's-lane.
 12. John, s. to Michl. and Catherine Hussey, Bolton-street.
 14. James, s. to John and Mary Bermingham, World's End.
 14. Bridget, dau. to Morice and Easter M'Voy, Strand-street.
 14. Margaret, dau. to John and Catherine Fagan, Fisher's-lane.
 15. Richard, s. to Thos. and Elinor Woods, Glasmonoge.
 15. John, s. to Andrew and Mary Doyle, Turnagain-lane.
 15. Bridget, dau. to John and Ann Mulloy, Fisher's-lane.
 16. Elizabeth, dau. to Simon and Jane Keating, Gt. Britain-street.
 18. Thos. s. to Martin and Mary Spencer, Strand.
 19. John, s. to Francis and Catherine Kerman, Church-street.
 19. James and Ann, s. and dau. to Patrick and Mary Molloy.
 19. John, s. to James and Mary M'Guel, Bachelors-walk.
 19. Catherine, dau. to Arthur and Mary Connolly, Coles-lane.
 19. Ann, dau. to John and Mary Moor, Strand-street.
 20. Christr., s. to Patrick and — Cassidy, White Lyon-court.
 20. Catherine, dau. to Nichoias and Catherine Mullen, Anderson's-court.
 21. John, s. to Pat. and Mary Lynham, Little-green.
 21. James, s. to Henry and Ann Moye, Marys-lane.
 21. Mary, dau. to Wm. and Mary Coffey, Church-street.
 23. Juggy, dau. to Owen and Elizabeth Bryan, Church-street.
 23. James, s. to James and Mary Dungan, Church-street.
 23. Thos., s. to John and Mary Connelly, Coles-lane.
 23. Mary, dau. to John and Ann Hines, Mary's-abbey.
 23. John, s. to Maly and Ann Dwier, Inns.
 23. Bridget, dau. to John and Mary Kenny, Bull-lane.
 27. Richard, s. to Timothy and Mary Clerk, Mary's-lane.
 27. John, s. to Andrew and Mary Lean, Lime-street. [Now non-existing; its site forms that part of Lr. Gardiner-street from Talbot-street to Beresford-place.]
 27. John, s. to Laurence and Catherine Maginnis.
 27. John, s. to Edmond and Mary Jones.
 27. Jonathan, s. to James and Mary Madden, Pill-lane.
 27. Mary, dau. to Hugh and Margret Heaton, Bull-lane.

27. Patrick, s. to John and Mary Rise, Caple-street.
 27. Mary, dau. to James and Elinor Reily, Pill-lane.
 27. Margaret, dau. to Patrick and Ann Cough, Mary's-street.
 29. John, s. to Thos. and Christian Thornton, Boot-lane.
 29. Thos., s. to James and Mary Gogan, Abbey-street.
 29. Ann, dau. to John and Mary Reily, Market.
 29. John, s. to Pat. and Mary Nolan
 29. Richd., s. to James and Mary Farrill; *g.f.*, Andrew Farrill; *g.m.*, Mary Read (Sir John Eccles).
 29. Sarah, dau. to Wm. and Honora Gogbin, Boot-lane.
 31. Mary, dau. to James and Mary M'Quee, Church-street.
 31. John, s. to Pat. and Mary Lynch, Proper-lane.
 31. Nicholas, s. to James and Mary Rider, Frapper-lane.
- Feb. 1. Andrew, s. to John and Mary Lawless.
1. Pat., s. to Pat and Mary Carrick, Caple-street.
 1. Bridget, dau. to John and Fanny Kelly, Frapper-lane.
 2. Mary, dau. to John and Ann Connelly, Cole's-lane.
 2. Mary, dau. to James and Ann Welsh, Strand.
 2. Sarah-Mary, dau. to Hugh and Christian Morris; *g.f.*, Mr. Simon Slingsby; *g.m.*, Mrs. Ann Nally.
 2. Henry, s. to John and Ann Murry, Market.
 2. John, s. to John and Mary Love, Strand-street.
 2. Nichs., s. to James and Ann Harburn, Cole's-lane.
 4. Patrick, s. to Thos. and Sicily M'Cough, Market.
 5. Mary, dau. to Patrick and Margaret M'Dermott, Moor's-street.
 8. Thos., s. to John and Mary Goff, Pill-lane.
 8. Mary, dau. to Pat and Ann Keaf, Church-street.
 10. James, s. to John and Ann Newman, Dromcondra-lane.
 10. Edward, s. to Edwd. and Elizabeth Wallace, Mary's street.
 10. Catherine, dau. to Bryan and Margret Neale, New Market.
 10. Ann-Mary, dau. to Saml. and Margaret Redmond, World's End; *g.f.* Simon Luttrell; *g.m.* Alice Luttrell.
 11. Mary, dau. to John and Dorothy Heeny.
 12. Elizabeth, dau. to Edwd. and Honora Duff, Bolton's-street.
 15. Valentine, s. to Edwd. and Catherine Little, Caple-street.
 16. Michl., s. to Edmond and Mary Browne.
 16. Joseph, s. to Henry and Mary Lynch, Bolton-street.
 17. Andrew, s. to John and Mary Ennis, Fisher's-lane.
 19. Margret, dau. to James and Bridget Dillon.
 20. James, s. to John and Mary Archbold, Lyphy-street.
 20. Christr., s. to Thadeus and Margaret Allen, Pill-lane.
 20. Frances, dau. to Thos. and Ann Fitzsimons, Caple-street; *g.f.* James Nolan; *g.m.* Mrs. Joan Plunkett.
 20. Martin, s. to James and Ann Nolan, Pill-lane.
 22. Patrick, s. to Cornelius and Catherine Ryan, Pill-lane.
 23. Mary, dau. to Wm. and Catherine Knight, Frapper's-lane.
 23. Mary, dau. to John and Rose Nolan, Caple-street.
 23. Mary, dau. to James and Margaret Dillon, New Market.
 23. Hussey, s. to Sir Andrew and Lady Mary Aylmer; *g.f.* Mr. James Aylmer, *g.m.* My Lady Emilia Plunket.
 23. Mary, dau. to Patrick and Rose Kelly, Drogheda-street.
 23. Andrew, s. to John and Mary Goddin, Inns.
 23. Michael, s. to James and Mary M'Loughlin, Strand-street.
 24. Thos. s. to Thomas and Agnes Foord, Frapper-lane.
 26. Margret, dau. to John and Mary Cleton, Ormond-key.
 26. Martin, s. to James and Ann Nolan, Boot-lane.
 26. John, s. to James and Mary Davis, Pill-lane.
 27. James, s. to Wm. and Mary Keegan, *g.f.* John Ball, *g.m.* Mary Farrill (opposite Sir John Eccles).

28. Judith, dau. to John and Mary Feeny.
- March 1. Margret, dau. to James and Ann Dillon, Church-street.
2. Jane, dau. to James and Mary Purfield, Loftice-lane.
 2. Diana, dau. to John and Bridget Brogan, Barrack-street.
 2. Mary, dau. to John and Margret Wade, Dromcondra-lane.
 3. Ann, dau. to James and Ann M'Cardell, Glasmanog.
 3. Ann, dau. to James and Alice Hoy, Charles-street.
 4. Ann, dau. to Wm. and Mary Denn, Pill-lane.
 5. John, s. to John and Elinor Walker, Strand.
 5. Edward, s. to Barnaby and Ann Mathews, Caple-street.
 7. Henry, s. to Henry and Mary Deering, Caple-street.
 7. James, s. to John and Ann Nolan, Dromcondra-lane.
 11. Patrick, s. to Hugh and Mary Wade, Boot-lane.
 11. Jane, dau. to Patrick and Mary Fitzharris, Church-street.
 13. James, s. to Maurice and Ann Nolan, Dromcondra-lane.
 13. Pat., s. to Patrick and Honora Floyd, Liffce-street.
 14. Patrick, s. to John and Jane Beaghan, Mass-lane.
 16. Jane, dau. to Patrick and Mary Crannon, Liffce-street.
 16. Patrick, s. to John and Ann Dempsey, Church-street.
 16. Simon, s. to Christr. and Mary Connell, Caple-street.
 16. Ann, dau. to Patrick and Catherine Smith, Glasmanoge.
 16. Joseph, s. to Cornelius and Rose Daly.
 16. Mary, dau. to Robert and Margaret Magenis, Straud-street.
 18. Easter, dau. to Michael and Catherine Smith, Pill-lane.
 18. Jane, dau. to John and Mary Doyle, Market.
 20. Nicholas, s. to Thos. and Elinor Dowling, Church-street.
 20. Jane, dau. to James and Mary Nolan, Mary's-lane.
 20. Joseph, s. to James and Ann Byrn, Charles-street.
 21. Elizabeth, dau. to William and Eliza Stafford, Cole's-lane.
 21. Mary, dau. to Wm. and Peggy Dickson, Marlborough-street.
 21. Laurence, s. to Geo. and Mary Cavenagh, Cross-lane.
 21. Walter, s. to Peter and Ann Kelly, Caple-street.
 21. Luke, s. to John and Ann Redmond, Church-street.
 23. John, s. to Edward and Else Kennedy.
 23. John, s. to Patrick and Mary Christian, Broad Stone.
 23. Christr., s. to Christopher and Mary M'Donnell.
 24. John Dempsey, s. to James and Mary Dillon, Loftis-lane.
 24. Jane, dau. to Walter and Margaret Tobin, Loftice-lane.
 27. John, s. to James and Ann Kelly, Petticoat-lane.
 27. James, s. to Andrew and Mary Lynch, Abby-street.
 27. Mary, dau. to John and Ann Newman, Church-street.
 28. Joseph, s. to James and Frances Savage, Church-street.
 29. Dennis, s. to James and Mary King, Fisher's-lane.
 30. Solley, s. to Arthur and Elinor Quin, Arran-street.
 31. Mary, s. [sic] to John and Judy Clarke.
 31. James, s. to John and Mary Neal, Wheeler's-alley.
- April 1. James, s. to Wm. and Mary Farrill, Mary's-lane.
1. Charles, s. to Charles and Mary Kelly, Cole's-lane.
 1. James, s. to John and Mary Farrill, Abbey-street.
 1. John, s. to Francis and Ann Nolan, Church-street.
 1. James, s. to John and Mary Watson, Mary's-lane.
 1. John, s. to Pat and Ann Nolan, Loftis-lane.
 5. Thos., s. to Thos. and Ann Malone, Mary's-lane.
 6. Easter, dau. to Hugh and Elizabeth Brady, Caple-street.
 10. Owen, s. to James and Elizabeth Gallagher, Glasmanog.

10. John, s. to James and Mary Welsh.
 12. John, s. to John and Ann Byrne, Flag-alley.
 16. Cicily, dau. to Richard and Margaret Farrill, Fisher's-lane.
 17. Geo., s. to James and Hanna Graves, Liphy-street.
 17. Margret, dau. to John and Mary Byrn, Charles-street.
 18. Mary, dau. to Nicks. and Mary Murphy, Ormond Key.
 19. Clara, dau. to Mr. Garret and Mary Fitzgerald, in Great Britain-street; *g.f.* James Fitzgerald; *g.m.* Elenor Plunket.
 19. Patrick, s. to Andrew and Catherine Field, Church-street.
 19. Juggis, dau. to Hugh and Dorothy Roach, Glasmanog.
 22. John, s. to Bryan and Mary Sexton, Bolton-street.
 22. Wm., s. to Bryan and Jane Kahil, Liffce-street.
 22. Alexander, s. to John and Mary Moony, Liffce-street.
 23. James, s. to John and Ann Nolan, Loftis-lane.
 24. Jane, dau. to John and Margaret Sands, Strand-street.
 24. Geo., s. to Edward and Catherine Gorman, Charles-street.
 24. Catherine, dau. to Patrick and Mary Taafe, Church-street.
 24. Ann, dau. to Wm. and Jane M'Nally, Tucker's-row.
 25. Alexr., s. to Wm. and Mary Hall, Charles-street.
 26. Mary, dau. to Wm. and Mary Doyle, Arran-street.
 27. Thos., s. to Henry and Mary Kelly, Pill-lane.
 27. James, s. to Andrew and Mary Dalton, Loftis-lane.
 27. Andrew, s. to James and Mary Nolan, Britain-street.
 28. Mark, s. to Harry and Elizabeth Welsh, Ormond Key.
 May 1. Thomas, s. to John and Mary Ormsby, Tucker's-row.
 1. Catherine, dau. to Christopher and Ann West.
 1. John, s. to Charles and Margret Byrn, Church-street.
 2. James, s. to Pat and Mary Nolan, Loftis-lane.
 2. Peter, s. to James and Mary Gorman, Liffce-street.
 4. Edwd., s. to Edward and Elizabeth M'Cort, Loftis-lane.
 5. Laurence, s. to Laurence and Easter Doud.
 5. Catherine, dau. to James and Mary Sherlock, Boot-lane.
 5. Margaret, s. [*sic*] to Walter and Ann Derum, Caple-street.
 6. Mary, dau. to Sicily Bolan, Church-street.
 7. Ismael, dan. to Joseph and Tenison Bath, Little Green.
 14. Catherine, dau. to James and Mary Mulkeran, Pill-lane.
 16. Sarah, dau. to Thos. and Hanna Gibbons, Boot-lane.
 16. Christian, dau. to John and Christian Earle, Strand.
 17. Mary, dau. to James and Catherine Lucarini, Loftice-lane.
 17. Catherine, dau. to James and Catherine Warren, New Market.
 19. Margret, dau. to Michl. and Mary Welsh, Church-street.
 19. James, s. to Pat and Frances Lynham, Cole's-lane.
 19. Robert, s. to Alesis and Alice Strong, Pill-lane.
 19. James, s. to Thomas and Mary Redmond, Market.
 20. Charles, s. to John Pepard, of Drogheda, Church-street; *g.f.* Mr. Higghans; *g.m.* Mrs. Pepard.
 25. Sarah, dau. to Wm. and Mary Morris, Pill-lane.
 28. Catherine, dau. to Luke and Mary Clerk, Caple-street.
 28. Peter, s. to James and Ann Lynham, Strand-street.
 28. Francis, s. to James and Mary Porter, Liffce-street.
 June 1. Daniel Carberry, Pill-lane, christened.
 3. Peter, s. to Pat and Mary Quin, Church-street.
 3. Francis, s. to Henry and Dorothy Wall, Great Britain-street.
 5. Mary, dau. to James and Ann Deerham, Pill-lane.
 5. Francis, s. to John and Elizabeth Bree, Church-street.
 6. Mary, dau. to Richard and Jean Kelly, Turinlan-lane.
 8. Patrick, s. to Patrick and Mary Cary.
 9. Elizabeth, dau. to Edwd. and Mary Tracy, Johnson's-alley.
 9. Barthw., s. to Dennis and Ann Macquee, Pill-lane.
 11. John, s. to Patrick and Mary Mullen, Market.
 14. Nathaniel, s. to Joseph and Ann Smith, Caple-street.
 16. Sicily, dau. to John and Mary Brown, Ormond Key.
 16. Philip, s. to John and Julian Phelan, Liffce-street.
 17. Nancy, dau. to John and Mary Flood, Church-street.
 17. Bridget, dau. to James and Bridget Cook.
 22. John, s. to Peter and Ann Crosby, Drumcondra-lane.
 22. James, s. to James and Mary Nolan, Liffce-street.
 22. Peter, s. to James and Ann Lynham, Mary-street.
 22. Patrick, s. to Patrick and Amy Handlon, Arran-street.
 24. Joan, dau. to Wm. and Ann Smith, Chapel.
 24. Elinor, dau. to Thomas and Ann Cunningham, Ormond Key.
 24. Juggy, dau. to Patrick and Elinor M'Nally, Chapel.
 25. Eleoner, dau. to Christr. and Ann Mullen, Market.
 27. James, s. to Mathew and Alice White, Church-street.
 27. Christopher, s. to Matthew and Mary Commons, Pill-lane.
 27. Margret, dau. to Patrick and Catherine Maguiness, King-street.
 30. Alice, dau. to Patrick and Mary Heeny, Caple-street.
 30. John, s. to Patrick and Mary Bulger, Ormond Key.
 30. James, s. to Peter and Mary Nolan, Market.
 30. Mary, dau. to Philip and Honora Connell, Chapel.
 30. Peter, s. to Robert and Bridget Kenelly, Coale-lane.
 30. Mary, dau. to Edmond and Margaret Dorill, Tucker's-roe.
 30. James, s. to Peter and Mary Drake, Frapper's-lane.
 July 1. Peter, s. to Alexr. and Ann Murphy, Broadstone.
 1. Ann, dau. to Andrew and Elizabeth Donnelly, Pill-lane.
 6. Mary, dau. to Owen and Mary Hamilton, Coale-lane.
 6. Bridget, dau. to Michael and Elizabeth Higgins, Arran-street.
 7. Elizabeth, dau. to Peter and Ann Coin, Mass-lane.
 7. Mary, dau. to James and Ann Brown, Pill-lane.
 8. Cornelius, s. to Peter and Mary Manin, Glasmanoge.
 8. Ann, dau. to John and Margaret Perry, Pill-lane.
 8. Elinor, dau. to Thomas and Ann Suelin, New Market.
 8. Elizabeth, dau. to Mathias and Sarah Malone, Mary's-lane.
 9. Elinor, dau. to John and Alice Gargan, New Market.
 10. James, s. to James and Ann Keegan, Strand-street.
 10. Mary, dau. to Francis and Ann Lochlin, Mass-lane.
 13. Honora, dau. to Lawrence and Juggy Ward, Boot-lane.
 13. John, s. to Edwr. and Mary Reily, Glasmanoge.
 14. Catherine, dau. to Phillip and Ann Fitzsimons.
 14. John, s. to Phillip and Elinor Reily, Strand-street.
 14. Margaret, s. [*sic*] to Alexr. and Jane Rochford, Caple-street.
 14. Mary, dau. to James and Ann Plunket, Church-street.
 16. Walter, s. to James and Margret Drumgold, Proper-lane.
 16. Patrick, s. to James and Ann Colan, Jews-alley.
 16. James, s. to John and Ann Murphy, Arran-street.
 20. Margaret, dau. to Robert and Mary Merri-man, Glasmanoge.
 20. James, s. to Cormack and Mable M'Guire, Glasmanoge.
 20. Walter, s. to John and Mary Moade, Fisher's-lane.
 20. Patrick, s. to James and Ann Nugent, Stable-lane.
 21. Rose, dau. to Henry and Mary Davis, New Market.
 21. John, s. to James and Mary Reily, Strand.
 23. Ann, dau. to Richard and Mary Cook, Coale-lane.
 23. Nathaniel, s. to Patrick and Mary Mullan, Strand-street.
 24. Ann, dau. to James and Mary Brisco, Pill-lane.
 27. Ann, dau. to James and Ann Young, Caple-street.
 27. Ann, dau. to Richd. and Mary Cook, Frapper's-lane.
 Augt. 1. Jane, dau. to Nicholas and Ann Bell, Mountrath-street.
 1. Ann, dau. to Mathew and Mary Norton, Stable-lane.
 3. Ann, dau. to Adam and Jane Fleming, Bolton-street.
 6. Thos., s. to Thomas and Mary Hinds, Bull-lane.
 8. Patrick, s. to Daniel and Margrett Hinnin, Pill-lane.
 8. James, s. to Pat and Ann Fagan, Bolton-street.
 8. Francis, s. to James and Mary Moony, Market.
 9. Lawrence, s. to Wm. and Honora Keefe, Coale-lane.
 9. James, s. to Francis and Ann Dogherda, Mary's-lane.
 13. James, s. to Patrick and Ann Nolan, Mary's Abbey.
 14. Peter, s. to David and Ann Trane, Liffce-street.
 17. John, s. to John and Elinor Steevens, Boot-lane.
 17. Ann-Bryan, dau. to James and Elinor Reily, Strand.
 18. Thos., s. to Walter and Margrett Dungan, Lyphy-street.
 Sept. 2. Jean, dau. to Anthony and Cathe. Hay, Church-street.
 4. George and Dominick Dolan, Mary's-lane.
 7. Andrew, s. to James and Ann Tute, Caple-street.
 8. John, s. to Sanders Welsh, Strand.
 10. Nicholas, s. to Patrick and Elizabeth Lawless, Pill-lane.
 10. Sylvester, s. to Sylvester and Ann Handberry, Fisher's-lane.
 14. Mary, sone [*sic*] to John and Elinor Loughlin.
 16. Michael Lenard, s. to Lenard and Mary Scully; *g.f.* Charles Bryan; *g.m.* Mary Field.
 17. Michael, s. to Peter and Mary Geoghegan.
 17. Michael, s. to Owen and Catherine Wade, Cherry-lane.
 18. Ann, dau. to Peter and Catherine Duff, Pill-lane.
 18. David, s. to Edwd. and Elizabeth Mooney, Charles-street; *g.f.* Wm. Reynolds; *g.m.* Mrs. Vaughan.
 Oct. 8. Mary, dau. to Robert and Mary Bosieur, Inns.
 9. Robert, s. to Robert and Ann Fitzgerald, Church-street.
 [The R. C. parish of *St. Mary*, although nominally taken out of *St. Michan's*, in 1707, appears not to have been practically formed until the 11th October, 1729, owing, perhaps, to the unsettled state of society during Queen Ann's reign and in the early part of that of George the First. Whatever was the proximate cause of this long delay, it was not, however, until 1729 that the boundaries of the new parish of *St. Mary* were defined and set forth, and a new parish priest appointed. (See *IRISH BUILDER* for 1st July, 1892.) From 11th Oct., 1722, the Registers of *St. Michan's* are strictly confined to the use of the new separate and reduced parish of *St. Michan's*.]
 12. Marcella, dau. to James and Mary Lynch, Church-street.
 12. Mary, dau. to James and Mary Gill.
 12. Catherine, dau. to Wm. and Mary Doran, Frapper's-lane.
 12. Margaret, dau. to Wm. and Catherine Cooley, Mary's-lane.
 12. John, s. to John and Elinor Gafney, Arran-street.
 18. Elizabeth, dau. to John and Rose Byrne.
 25. Thos., s. to Patrick and Alley Cormack, Church-street.
 Nov. 2. Rose, dau. to Patrick and Jane Connolly, Pill-lane.
 5. Margrett, dau. to James and Bridget Branigan, Pill-lane.
 12. Thady, s. to Michl. and Mary Concannon.
 19. Catherine, dau. to Michl. and Mary Clerk.
 20. Thos., s. to John and Catherine Quin, Bull-lane.
 23. Sarah, dau. to George and Margrett Sherlock, Church-street.

23. Elizabeth, dau. to Dominick and Elizabeth Robinson, Inns-key.
- Dec. 9. Was christened Edward Butler, son to Richard Butler; *g.f.* Will. Butler; *g.m.* Sarah Lawson.
14. Elizabeth, dau. to John and Mary Donnelly, Little Green.
14. Elizabeth, dau. to John and Margrett Mullady, Fisher's-lane.
22. Mary, dau. to John and Elizabeth Lee.
23. Thomas, s. to John and Catherine Devine.
24. Catherine, dau. to Miles and Mary Jennings, Mary's-lane.
25. Mary, dau. to John and Jane M'Donnell, Pill-lane.
25. Christopher, s. to Richard and Margrett Roe, Church-street.
26. Mary, dau. to John and Ann M'Donnell, Pill-lane.
26. Christopher, s. to Bryan and Margrett O'Neale, New Market.
27. John, s. to Thomas and Sicily Dias, Little Green.
29. Mary, dau. to James and Mary Williamson.
- 1730.
- Jan. 8. James, s. to Henry and Mary White, King-street.
12. Peter, s. to Peter and Catherine Woods, Mary's-lane.
16. John Farrill, s. to Nicholas and Mary Carroll, Pill-lane.
27. Philip, s. to Philip and Elizabeth Kelly, Arran-street.
27. John, s. to Edwd. and Jane Bryan, Mary's-lane.
- Feb. 1. Jane, dau. to John and Ann Moran, Chappel.
3. William, s. to Michl. and Margaret Tomson.
15. John, s. to James and Mary Smith.
15. Gilbert, s. to Patrick and Mary Carney, Charles street.
17. Michl., s. to Michl. and Margrett Fagan, Bradooge-lane.
18. Elizabeth, dau. to Richard and Mary Eustace, Mountrath-street.
19. John, s. to Richard and Elizabeth Lateford, Fisher's-lane.
- March 5. Margrett, dau. to Patrick and Elinor M'Namee, Boot-lane.
5. Elizabeth, dau. to Patrick and Rose Hern, Mary's-lane.
6. Hugh, s. to William and Mary Morrice, Pill-lane.
7. Sarah, dau. to Hugh and Mary Oats, Frapper-lane.
8. Mary, dau. to Hugh and Christian Morrice, Pill-lane.
8. Patrick, s. to John and Catherine Magrane, Church-street.
16. Sicily, dau. to Walter and Margaret Bermingham, Cloisters.
16. Patrick, s. to Nicholas and Mary Camel, Church-street.
18. Mary, dau. to James and Margaret M'Loughlin.
18. Patrick, s. to John and Ann Dowling.
23. Joseph, s. to John and Mary Martiall, Boot-lane.
25. Catherine, dau. to Christr. and Catherine Gould, Mountrath-street.
30. Mary, dau. to Patrick and Mary Davis, Boot-lane.
30. Mary, dau. to John and Margery Slaughtery, Fisher's-lane.
- April 1. Elizabeth, dau. to Morrice and Elizabeth Kenny, Charles-street.
3. Wm., s. to Philip and Mary Harper, Boot-lane.
5. James, s. to John and Elizabeth Fitzsummons, Market.
5. Esther, s. to Richard and Prudence Rowliston, Anderson's-court.
5. Patrick, s. to John and Catherine Costigan, Fisher's-lane.
8. James, s. to Charles and Margaret Byrne, Church-street.
8. James, s. to James and Catherine Folliard, Apple Key.
22. Catherine, dau. to Edward and Mary Mealy, Inns Key.
- May 17. Catherine, dau. to Thos. and Anastas Reily, Boot-lane.
17. Mary, dau. to John and Bridget Lyons.
24. James, s. to James and Elizabeth Lynch, Markett.
24. Elinor, dau. to Christr. and Elizabeth Welsh.
24. Mary, dau. to John and Catherine Elliot.
28. Catherine, dau. to Michael and Catherine Davis, Pill-lane.
- June 22. Ann, dau. to John and Jane Betagh, Mass-lane.
30. Peter, s. to James and Elenor Gaffney, Church-street.

- July 5. Ann, dau. to James and Ann Dunn, Boot-lane.
10. John, s. to John and Sarah Madden, Charles-street.
13. Edmond, s. to Anthony and Mary Fitzgerald, Mary's-lane.
19. James, s. to Lawrence and Elinor Girarty, Frapper's-lane.
19. John, s. to Thomas and Elinor Coligan, Mass-lane.

MARRIAGES.

From Jan. 1729 to July 1730.

- Jan. 6. Arthur Fooley and Jane Connelly.
6. Patrick Price and Bridget Welsh.
7. Thomas Barker and Agnes Boiu.
12. Thomas Barrett and Margaret Bont.
16. Richard Shiel and Jean Downing.
17. Dennis Norton and Elinor Dempsey.
19. Dennis Davise and Mary Dempsey.
26. Morgan Byrne and Mary Russel.
28. Miles Cavenagh and Sarah Hamilton.
29. Tobias Connor and Catherine Floyd.
- Feb. 1. John M'Darnell and Ann Carbery.
2. Roger Bellew and Mary Davise.
2. John Thornton and Mary Welsh.
10. John Heferman and Catherine Ward.
11. Edward M'Guire and Mary Matthews.
12. John Connor and Catherin Dixon.
14. Richard Dowdall and Margaret Landy.
16. Richard Denisse and Catherine Gory.
16. Daniel Curry and Catherin Branigan.
18. Robert Gernon and Peggy M'Donnell.
18. John Mullen and Elizabeth Morton.
18. Richard Hedington and Ann Nolan.
18. John Donelly and Ann Bruton.
18. Bryan Cassidy and Bridget Murry.
- March 16. William Calvin and Bridget Burk.
- April 6. Bernard Dune and Mary Carroll.
6. Michael Grumley and Mary Quin.
8. Michael Brown and Hanna Heins.
14. John Boshell and Mary Finigan.
14. Was married by me [John Linegar] wth ye Rev. Dr. Nary's leave, Mr. Laurence Misset, County of Kildare, to Mrs. Mary Dillon, of this parish, in presence of Councillor Dillon, Mrs. Dillon, and Miss Dillon.
17. Edward Quin and Hanna Gravey.
24. Bernard Byrne and Bridget Farrell.
- May 1. Owen Reily and Elizabeth Barry.
1. Patrick Conway and Margret Masterson.
1. George Berry and Judith Bryan.
13. Morgan Redmond and Judith Hall.
15. James Connor and Mary Garagin.
19. Patrick Conuor and Mary Carr.
20. Was married, Thomas Moore to Jane Fitzgerald; witness present, John Moore, Nicholas Morgan, Honora Moore, by V. S.
- June 9. Stephen Jones and Elizabeth Reily.
10. Edward Eagan and Ann Fulham.
16. David Nolan and Bridget Farril.
22. Edward Colgan and Elinor Beechan.
- July 7. Thomas Daniel and Elinor Crysby.
14. Richard Smith and Magdalen Plunkett; witness present, Mr. Plunkett, William Plunkett, and Mrs. Brawell.
15. Richard Regan and Elinor Murphy.
27. Patrick White and Jane Savage.
27. Nicholas Petit and Amy Welsh.
- Aug. 6. Hugh Kelly and Margrett Lensy.
10. Christopher Traynor and Margaret Gill.
13. Thomas Brothers and Elizabeth Dunn.
14. Peter Walsh and Mary Connolly.
- Sept. 8. Christopher Moran and Catherine Hind.
15. Richard Welsh and Bridget Neal.
16. Christopher M'Nailty and Rose M'Donnell.
- 1730.
- Jan. 10. William Vaughan and Mary Hart.
16. Richard Fitzgerald and Mary Latin [dau. of John Latin, *g.f.* of George Aylmer]; witness present Michl. Ambrose and Garrot Aylmer.
- Feb. 5. Toole M'Daniel and Judith Butler, in ye presence of Bryan Carrick and Will. Hall.
6. Charles Carolan and Catherine Byrn, in the presence of Will. Hall and Bryan Carrick.
10. Thomas Bryan and Rebecca M'Cabe.
- March 30. William Jury and Mary Creag.
- June 30. Edmond Hand and Mary Kelly.
29. Patrick Cox and Bridget Ryan.
- July 18. Phillip Lynch and Mary Fullam.

NOTES AND ADDITIONS.

Baptisms (see Dec. 21, 1726).

FAMILY OF BELLEW.

PART II.

Besides the direct ancestors of the Lord Bellew given in our last, there were many eminent persons of note, of whose immediate descent we have no positive evidence; but

who, we may presume, were descended from the same stock. Thus we find that, in 1479, there was a Richard Bellew, Lord of Louth, one of the thirteen members of the Order of the Garter, associated for the preservation of *The Pale* from the incursions of the Irish. There were also members of the same family living in Duhlin in the 15th century, who held exalted municipal positions in the city. Philip Bellew was Mayor of Dublin, in 1455, and died in 1466; John Bellew filled the same office in 1473; James Bellew was Sheriff of Dublin in 1560, and Mayor of same city in 1572; and another James Bellew, Sheriff in 1588, and Mayor in 1598, who *d.* 8th August, 1606, leaving issue by his wife, Elenor, *dau.* of Michael Pentony, two *daus.*: Elizabeth, *m.* to Thomas White, of Dublin, merchant, and of the Ward; and Margaret, *m.* to James Plunket, Alderman of Dublin, who *d.* 26th Jan., 1626, having issue by her, Robert, Walter, Elizabeth, (*m.* Edward Dowdall, of Athlumney), Elenor and Ann.

In the Parliament of 1639, Sir John Bellew, of Willystown, was Knight for the County of Louth; he *m.* Mary, 2nd *dau.* of Robert Dillon, of Clonbrock, Esqr., and had a son,

SIR PATRICK BELLEW, 1st Bart., of Bellew-Mount, otherwise Barmeath, County of Louth, who had a grant of lands under the Acts of Settlement in 1678, and, 6th January, 1684, another grant under the Act of Grace, of the town and lands of Clonoraneitragh, to be called *Castle Bellew*, with other lands in the Counties of Galway and Louth. By the interest of John Lord Bellew (the 1st Baron of that name, see former article), he was created a Baronet; for, when the Earl of Tyrconnell was appointed Lord Lieutenant of Ireland by James II., being desirous to have more of the Irish advanced to dignities and titles of honour, than formerly had been, he consulted, among others, with the Lord Bellew, what persons in the County of Louth were fit to be created Knights and Baronets; when his lordship named Sir Patrick Bellew as a person whom he thought proper to be made a Baronet. Tyrconnell, intending at that time to go over to England, wrote to the Secretary of State to make out a warrant for that honour, which bears date at Whitehall, 25th April, 1687, and the patent at Dublin, 11th Dec., 1688.

He *m.* the sister of Sir Patrick Barnewall, of Slane, Bart., and *d.* in January, 1715, having had issue five sons and six *daus.*:

I. Sir John, his heir.

II. Robert, *m.* Bridget, *dau.* of — Sedgrave, Esq., at St. Audoen's, Dublin, 17th Sept, 1677, and had a son John, there bapt., 1st Oct., 1679. He died in 1733.

III. Richard

IV. Christopher } *d. young.*

V. Pierce

(1) Elenor, *m.* — Evers; (2) Cicely; (3) Juliana, *m.* John Browne, of the Neale, County of Mayo, and *d.* in 1728; (4) Helena, *m.* — Darcy; (5) Monica, *m.* — Plunket.

SIR JOHN BELLEW, 2nd Bart., of Barmeath, and of Castle-Bellew, *m.* (1st), in Dec. 1685. Mary, *dau.* of Edward, and sister and co-heir to Nicholas Taylor, of Duhlin, and by her, who *d.* in 1708, had three sons and one *dau.*:

I. Patrick, who *d.* before his father, *m.* (1st) in July, 1713, Lady Mary Burke, *dau.* of Richard, 8th Earl of Clanrickard, who died 12th January in the following year, he *m.* (2ndly), Frances, 2nd *dau.* of George, Count Hamilton, and widow of Henry, 8th Viscount Dillon, but he *d.s.p.* 12th June, 1720.

II. Edward, succeeded his father, and of whom presently.

III. Richard.

1. Clare, *m.* (1st), 1720, Gerald FitzGerald, of Kilmore, in the County of Kildare, and by him, who *d.* 1729, had issue three sons and three *daus.*; in 1731 she remarried with Hyacinth Chevers.

Sir John Bellew *m.* (2ndly), Elizabeth, *dau.* of Edward Curling, Store-Keeper of Derry,

during the memorable seige of that city in 1688-9, and by her, who survived him (and *m.* (2ndly), St. Laurence Berford) had issue seven sons and three *daus.* Five of the sons died in infancy; the sixth, William, an Officer of Foot, *m.* Letitia, *dau.* of Col. Tulikin, but by her, who died at Athlone, 13th Sept. 1751, had no issue, and, seventh Charles. The daughters were, (1) Elizabeth, *m.*, 6th March, 1733, Hugh Woodside, of Dublin, Merchant, who *d.* 28th Nov. 1755, and was buried at St. Mary's, Dublin; (2) Mary *m.* George Berford; (3) Juliana, *m.*, 19 January, 1737, Francis Palmer, of Carramore, County of Mayo. Sir John Bellew died, 23rd July, 1734, and was succeeded by his second eldest son (by his first wife):—

SIR EDWARD BELLEW, 3RD BART., *m.* Eleanor, eldest of the five daughters and co-heirs of Michael Moore, of Drogheda, Esq., and dying in Flanders, on his way from Paris to Ireland, in October, 1741, left issue four sons and one *dau.*

I. Sir John, his heir.

II. Sir Patrick, heir to his brother, and ancestor of the present Lord Bellew.

III. Michael.

IV. William.

1. Bridget.

SIR JOHN BELLEW, 4TH BART., died at Bar-meach, of the small-pox, 2nd Nov., 1750, soon after he had returned from his travels; and was succeeded by his brother,

SIR PATRICK BELLEW, 5th BART., *bapt.* in Charles-street, Dublin, 21st Dec., 1726, by the Rev. Dr. John Linegar, then Curate of St. Michan's, and subsequently Archbishop of Dublin. The young baronet, who was ancestor of the present Lord Bellew, had for his god-father Lord John Bellew, the last Baron of the first creation. (See Family of Bellew Part I. in *Irish Builder* for the 1st inst.)

Sir Patrick, *m.* Mary, *dau.* and co-heiress of Matthew Hore, Esq., of Shandon, County of Waterford, and had, with nine sons, two *daus.* Frances, *m.* to Malachy Donelan, Esq., of Ballydonelan; and Mary. He *d.* 14th May, 1837, and was succeeded by his eldest son,

SIR EDWARD BELLEW, 6TH BART., *m.* 13th Augt., 1786, Mary-Anne, *dau.* and sole heir of Richard Strong, Esq., of Rockwell Castle, County of Kilkenny, by whom, who *d.* 14th May, 1837 he had issue two sons and one *dau.*:

I. Patrick, cr. Baron Bellew.

II. Richard-Montesquieu, *b.* 1803, *m.* 1828, Mary, *dau.* of John Lalor, of Crana, Co. Tipperary. He was a Lord of the Treasury, 1847-52; a D.L. for County of Louth, M.P. for that County 1832-52, and again in 1859.

1. Frances, *m.*, 1830, to Sir Edward Joseph Smythe, Bart., of Eshe Hall, Co. Durham, and Wooton Hall, Warwickshire.

SIR PATRICK BELLEW, 7TH BART., AND 1ST BARON BELLEW, in the Peerage of Ireland, so created in 1848; P.C. in Ireland, Lieutenant of the County Louth, and Colonel of its Militia; *b.* 1798, *m.* 1829, Anna-Fermina (*d.* 1857), only *dau.* of Don Jose Maria De Mendoza y Rios, of Seville, by whom he had issue one son and four *daus.*:

1. Edward-Joseph.

I. Frances-Mary.

2. Annabella-Mary, *m.*, 1857, Major Conyers Tower, 3rd Dragoon Guards.

3. Ismay Louisa Ursula, *m.*, 1861, Hon. Jenico Preston, eldest son of 13th Viscount Gormonston.

4. Fermina Maria Magdalena, *m.*, 1862, Capt. the Hon Everard Stourton, 10th Hussars. His Lordship *d.* 10th Dec., 1866, and was succeeded by his only son.

EDWARD JOSEPH, 2ND BARON BELLEW, D.L. for County Louth, was sometime Major in Louth Rifles, *b.* 3rd June, 1830, *m.* 7th Feb., 1853, Augusta Margaret Gwendoline, *dau.* of the late Colonel Bryan, of Jenkinson, and has issue, three sons.

1. Hon. Charles Bertram, Capt. 6th Batt. Royal Irish Rifles, *b.* April, 1855, *m.* 8th August, 1883, Mildred, *dau.* of Sir Humphrey De Trafford, 2nd Bart.

II. Hon. George Leopold Bryan, now of Jenkinson, D.L., Co. of Kilkenny, *b.*

1857. (See Family of Bryan, in *IRISH BUILDER* for Sept. 1st, 1892.)

III. Hon. Richard Eustace, *b.* 1858.

Arms—Sa. fretty, or.

Supporters—Dexter, a leopard, or, gorged, with a mural crown, az.; sinister, a wolf, az., gorged with a ducal coronet, or.

Crest—An arm embowed, in armour, holding a sword, ppr.

Motto—"Tout d'en haut."

(To be continued)

MISCELLANEOUS.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—We have just time before going to press to say that the Annual General Meeting of above will be held on Saturday afternoon next, 17th inst., at the Rooms, Dawson-street.

DOWNPATRICK TOWNSHIP.—In response to a memorial from householders of Downpatrick, the Local Government Board has directed them to convene a meeting to consider the question of converting the town and the part adjacent into a township under the provisions of the Towns Improvement Act.

BLACKROCK MAIN DRAINAGE.—At the meeting of the Kingstown Township commissioners on Monday, it was resolved to offer the most determined opposition to the Blackrock Main Drainage scheme, and to appoint a committee for the purpose, with similar powers to those of the committee of last year.

Alderman W. R. Maguire, of Dawson-street, has left Kingstown for London, on the invitation of the Lord Mayor of that city, in connection with the Worshipful Company of Plumbers. The Alderman is, we understand, carrying out important contracts for heating public buildings in North and South London.

OLD ST. GEORGE'S BURIAL GROUND CLOSED.—The Dublin Gazette of 9th inst. contained a notice from the Local Government Board, ordering that burials in the above ground, situate in Hill-street, Dublin, shall be wholly discontinued on, from, and after the first day of January, 1893.

KILKENNY WATERWORKS.—The corporation of the City of Kilkenny, have instructed Mr. W. H. Radford, C.E., of Nottingham, to inspect the district, and advise them, preliminarily, as to the best source for a water supply for the city. Mr. Radford has inspected the district, and reported on seven possible sources of supply, finally recommending the corporation to obtain the water from the mountain streams at John's Well, about six miles from the city. The cost of the works is estimated at £18,000.

DEATH OF PROF. SIEMENS.—The well-known electrical engineer, Dr. Werner von Siemens, passed away (says *Invention*) on Tuesday week, in Berlin. He was born at Lemhe, near Hanover, in 1816; he entered the Prussian Artillery as a volunteer in 1834 and from 1841 to 1849, when he retired from the army, he displayed a ceaseless activity in inventing and perfecting, under the auspices of the Prussian Government, various processes of galvanised gold and silver plating. He also devoted himself to constructing and developing the systems of electric telegraphy. Dr. Siemens was the inventor of the pneumatic tube system and several important improvements in dynamos for electric lighting, and was an honorary member of the British Association and of most of the European electrical and scientific societies.

MEDICAL OFFICERS OF HEALTH IN DUBLIN.—We understand that the Local Government Board for Ireland, through the agency of Dr. Stafford, its energetic inspector for the Dublin district, has been putting the Dispensary Medical Officers of the city under pressure to induce them to more activity in the making of reports and in other matters incidental to their functions as Medical Officers of Health. Although we are not convinced that paucity of paper reports is evidence that the sanitary work of the Health Officer is neglected, we agree that it is better that all the sanitary work done should take the formal shape of pen and ink, and we are certain that the Dublin dispensary doctors will agree with us, especially when they know that the Local Government Board has ample powers to deal with any persistent omission. We want, however, to know on what principle of equity these officers should be expected to make reports, few or many, to the Dublin Corporation? Many years ago the Corporation sneaked through Parliament a clause disguised in a bill dealing with other affairs, by which they conferred

upon the dispensary doctors of Dublin the unappreciated distinction of being Medical Officers of Health to the Town Council. They, however, forgot to make any arrangement for the payment of the staff whom they so kindly co-opted, except that they took power to fix the amount which should be paid, not by themselves, but by the guardians who represent payers of poor rates. Not one sixpence of civic money have the dispensary doctors touched from that day to this, and it does not infer any neglect of duty on their part if they have given to the Corporation the equivalent of their Corporation salaries, *i.e.* *nil*. Under the circumstances we cannot recognise the Dispensary Medical Officers of Dublin as the officers of the Corporation at all, or as justly liable to make any sort of reports to the Health Department of the city, and we venture to suggest that it would be reasonable for Dr. Stafford to accompany his report to the Local Government Board on the matter with an emphatic recommendation that, if the Corporation wants the work of medical officers, it should make up its mind to pay for the article.—*Medical Press*.

HOUSE DECORATION AND PAINTING.—Proprietors of house property should write to Carson's, Bachelors-walk, Dublin, for pattern lists of paints, varnishes, and other materials for decorating. Pure, genuine materials—the best and most durable in the world,—all prepared so that an unskilled person can apply them. One hundred shades of colours.

Illustration.

CITY OF DUBLIN HOSPITAL, UPPER BAGGOT-STREET.

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The Irish Builder.

NOTICE.

A TITLE-PAGE AND INDEX TO VOLUME XXXIV.

Will be sent to Subscribers with next issue.

THE VOLUME FOR 1892,

neatly bound (price 9s. 6d.) will be ready in a few days.

All communications for the literary department of this journal should be addressed to "The Editor."

Post Office Orders and Cheques should be made payable to Mr. PETER ROE, 42 Mabbot-street, Dublin, whose receipt alone is recognised.

It is respectfully requested that all parties indebted to this Journal, either for Subscriptions or Advertisements, will remit the amounts with as little delay as possible. Considerable loss of time results from frequent application.

We shall be glad to receive notes of works in contemplation or in progress in town or country.


Correspondents should send their names and addresses, not necessarily for publication.

It is to be distinctly understood that although we give place to letters of correspondents, we do not in all cases subscribe editorially to the opinions or statements set forth in same.

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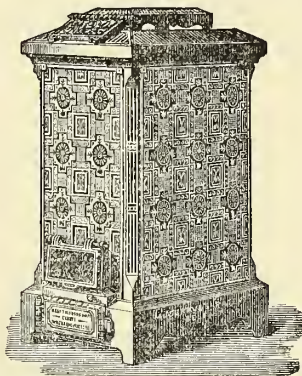
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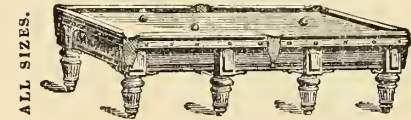
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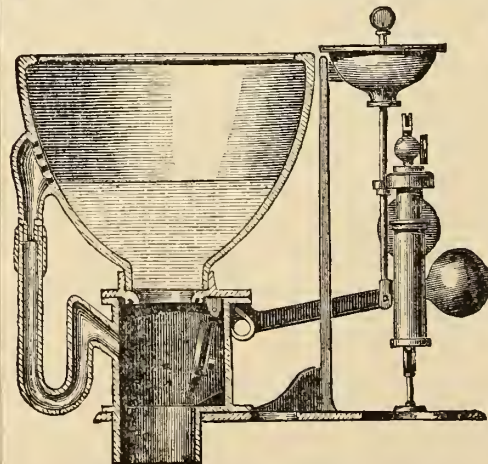
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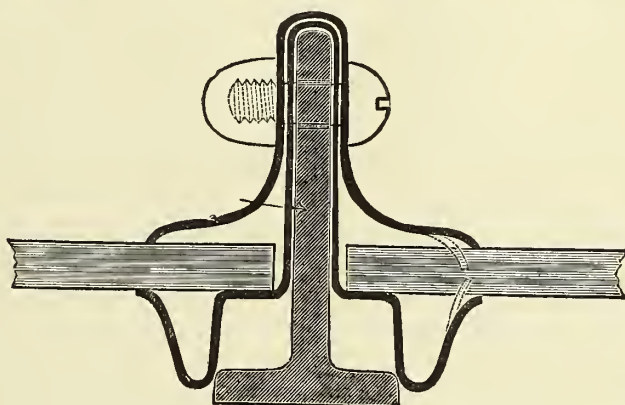
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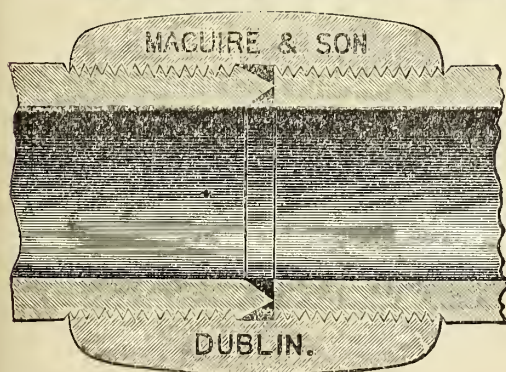
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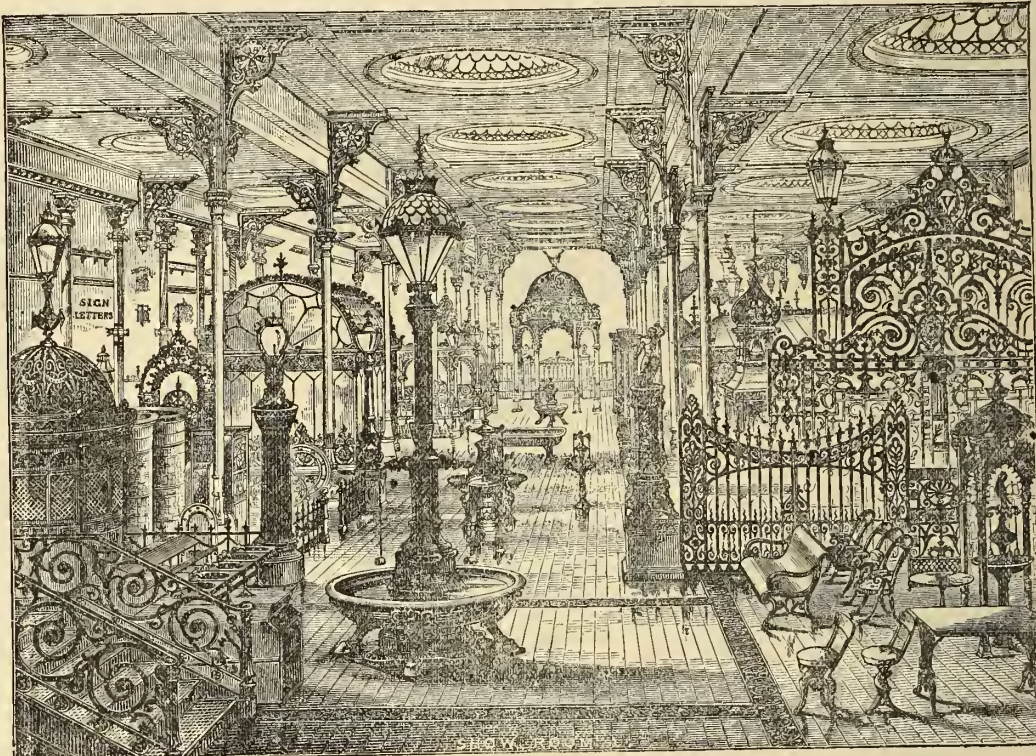
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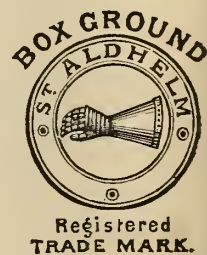
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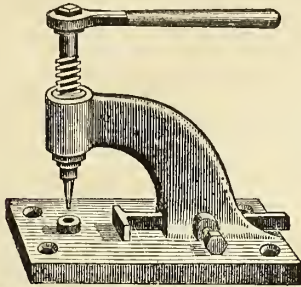
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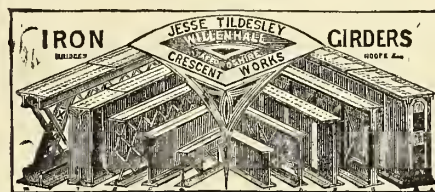
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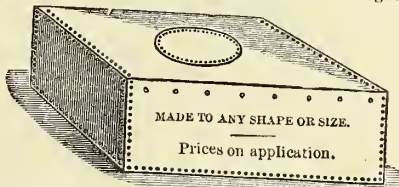
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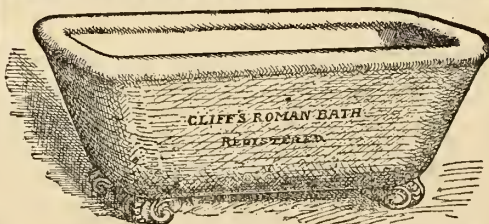
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